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## THE AGRICULTURAL OUTLOOK FOR 1934

Prepared by the Staff of the Bureau of Agricultural Economics

Assisted by Representatives of the Agricultural Adjustment Administration, the Extension Service, and the State agricultural colleges and extension services

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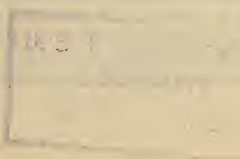
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### ANNUAL OUTLOOK CONFERENCE DATE ADVANCED

The preparation of this report, presenting facts useful to farmers in planning for 1934 production, has been completed this fall in order to make the information available for use during the early winter as well as in the spring. Previous outlook conferences have been held in January following the completion of the crop estimates on the year's production. The conference was advanced to October after consultation with other Federal and with State agencies because it was agreed that the report would be more useful if distributed early in the fall.

This report takes the place of the report for the Southern States formerly issued in the fall, and of the annual report usually issued by the Bureau of Agricultural Economics in February. Most of the State agricultural colleges and extension services usually prepare reports that apply particularly to conditions in their respective States which are distributed by the extension services of the States.

The following report summarizes facts not readily available to farmers and indicates the probable trends of production, distribution, and markets, so far as it seems feasible to indicate such trends at the present time. These statements will have to be modified in view of future developments and particularly in instances of decided change in policies regarding agricultural adjustment.



## DOMESTIC AND FOREIGN DEMAND

### SUMMARY

The domestic demand for most farm products has improved noticeably since March of this year and seems likely to improve further in 1934. In view of the relatively high level of activity in industries utilizing agricultural products, it seems probable that further increases in the demand for farm products will be dependent primarily upon a more pronounced recovery in the output of industries using nonagricultural products, particularly iron and steel. As a result of the agricultural adjustment program, total agricultural production may be held to about the same level as in 1933 when production, especially of grain, was influenced by unusually low yields in some crops. The reduction of large surplus stocks of raw materials is a necessary prerequisite to maintaining any substantial advance in price. Future credit and monetary policies will also be a major factor influencing price movements.

The prospects for improvement in the demand for American agricultural products in 1934 are less favorable in foreign than in domestic markets. Recently increased import duties and more stringent import quotas have added further to the difficulty of marketing our products abroad. There is no immediate prospect of a substantial reduction in these barriers. There has been a considerable improvement in industrial activity since the summer of 1932 in the countries affording the principal foreign outlets for American agricultural products, but if this improvement is to be maintained and eventually reflected in improved demand for American farm products, it would appear that there must be an expansion in the foreign outlets for European industrial goods. This depends, in turn, upon a higher level of prices for primary agricultural and mineral products in the surplus-producing countries.

### DOMESTIC DEMAND

#### CONSUMER INCOMES

Incomes of urban consumers, which are the chief factor influencing the domestic demand for farm products, declined approximately 50 percent from the peak level of 1929 to the first part of 1933. The number of workers employed declined approximately 40 percent during this period. Employment of those engaged in financial, clerical, public utility, and service work, in the first 4 months of 1933, averaged 75 percent of the 1929 level but those engaged in the production of raw materials, transportation, manufacturing, and construction averaged only 50 percent of that level. It is estimated that in September urban incomes had increased approximately 17 percent since the low point reached in March and April, and that unemployment had been reduced by more than 25 percent. Greatest improvement has been shown in the manufacturing and mining industries. Factory employment, according to the Federal Reserve Board index, increased from about 57 percent of the 1923-25 average in March and April to 74 percent in September. In the textiles group, employment increased from 65 percent in March to 88 percent in September. In the iron and steel group the increase was from 48 percent in March to 75 percent in September. In the transportation group, reflecting automobile production, the increase was from 42 to 53 percent. The American Federation of Labor estimates that total unemployment, including the number normally unemployed, has been reduced from 13,700,000 in March to 10,100,000 in September. Two factors growing out of the program of the National Recovery Administration—the practice of working shorter hours, thus distributing existing employment among a larger number of workers, and the rise in wage rates through the adoption of minimum wages under the various codes—have appreciably increased both employment and pay rolls. Since July employment has continued to rise despite a falling off in industrial production. It is probable, however, that further stimulus to employment will be dependent upon an improvement in industrial output.

Industrial production, as measured by the Federal Reserve Board index, advanced from a low of 60 percent of the 1923-25 average in March of this year to a peak of 100 percent in July, but has since declined to 84 percent in September. A comparison of the level of activity in those manufacturing industries that use primarily agricultural products with the level of activity



in industries that use primarily nonagricultural products indicates a substantial difference in the probable influence of these two groups of industries upon the level of incomes of urban consumers in 1934. In view of the large output attained in the former it seems likely that the chief stimulus to increased consumer incomes must come from industries using nonagricultural products.

#### ACTIVITY IN INDUSTRIES USING AGRICULTURAL PRODUCTS

In the group of manufacturing industries using agricultural products production advanced from 87 percent of the 1923-25 average in March to 122 in June, a level that has never before been reached. Prior to June 1933 the highest level of production in this group of industries was 114 percent, attained in April 1929. This high level of output, together with the sharp advances in retail prices, suggests that the peak reached in June may not again be reached within the months immediately ahead. The substantial expansion in output seems to have been stimulated by the existence of low stocks of finished goods, anticipation of higher prices, and expectation of higher costs of operation under N.R.A. codes. The impetus to the expansion lost its force after June and the index of output for these industries fell to 104 in September. As no stimulation similar to that which existed from March to June seems probable in the next few months, the activity of this group of industries in 1934 is not likely again to reach the peak of June. Nevertheless with a further improvement in industrial employment and pay rolls and no substantial further increase in the retail prices of textiles, the output and pay rolls of industries using agricultural products will probably be higher in 1934 than in 1933 and the average for the season may be close to the level of September.

The high rate of activity reached in the industries using agricultural products was due primarily to the expansion in output of textiles involving cotton, wool, silk, and rayon.

Cotton consumption, expanding rapidly following the banking holiday and the suspension of gold payments, advanced from 87 percent of the 1923-25 average in February to a peak of 139 percent in June. Since the latter month consumption has declined to 103 percent in September. The close of the 1932-33 cotton season apparently found domestic mills operating at a rather high rate of activity with a very large volume of unfilled orders and moderate stocks, but with sales at low ebb. Stocks of textiles in the hands of wholesalers, retailers, and consumers were probably somewhat greater than in 1931 or 1932. The adoption of the cotton-textile code resulted in a considerable increase in the number of workers employed and in an increase of more than 50 percent in the average hourly wage rates. It seems probable that total mill consumption in 1934 may be somewhat larger than in 1933 provided retail prices of cotton goods are not increased substantially over present levels.

Textile activities in wool, silk, and rayon have exhibited much the same course as in cotton. In June and July the wool industry was reported to be more active than at any time since the rush of activity that followed the World War. Silk and rayon deliveries also indicate a very substantial improvement since February and March. As in the case of cotton, it is probable that activities in wool, silk, and rayon reached a level, in midsummer, higher than may be expected to exist on the average during 1934.

The output of some manufacturing industries using agricultural products, such as meat-packing establishments, flour mills, and tobacco-processing plants, remains relatively stable from year to year and is not expected to show any material change in 1934 as compared with 1933.

#### ACTIVITY IN INDUSTRIES USING NONAGRICULTURAL PRODUCTS

It seems probable that any stimulus to a further increase in industrial production must come primarily from industries using nonagricultural products in which output showed a far more drastic decline than did the output of industries using primarily agricultural products. Output of this group is still substantially below that for manufacturing industries using agricultural products, even after advancing from a low of 42 percent of the 1923-25 average in March to a peak of 91 in July. By September the index had decreased to 73 percent. The output of this group of industries is dominated largely by the output of iron and steel. As 50 percent of the total output of iron and steel is normally taken by the railroad, construction, and automobile industries, the prospects of these

three lines of activity will be of particular significance in appraising the extent to which industries using nonagricultural products will contribute to an increase in the income of urban consumers.

Purchases of railroad equipment and expenditures for maintenance, both of which have been sharply curtailed in recent years, may afford a considerable stimulus to the iron and steel industry. The Federal Coordinator of Railroads has received bids for approximately 1,000,000 tons of steel rails and fastenings for meeting current needs of the railroads. Any considerable increase in traffic in 1934 would probably be accompanied by a rapid increase of additional expenditures for normal replacement needs and for meeting deferred maintenance and obsolescence. This would be reflected in increased orders for rails and in larger wage disbursements for maintenance of way and structures, as well as of equipment. Deferred maintenance of equipment, however, may be made up partly by the purchase of new rolling stock, orders for which practically ceased in 1932. Although railroads apparently have sufficient rolling stock in repair for meeting present traffic requirements, retirement of equipment during the depression to date indicates the probable need for substantial purchases of locomotives, passenger-train cars, and freight cars, should the volume of traffic be considerably increased. The timing of these orders will depend on the rapidity of increase in traffic.

Increased construction activity is likely to contribute appreciably to an increase in consumer incomes in 1934. Contracts awarded reached a low of 14 percent of the 1923-25 average in March, and by September had advanced to 28 percent. An increase of 17 percent in total contracts was shown from August to September, representing mainly a gain of publicly financed projects. The Federal public works program involving an expenditure of \$3,300,000,000, chiefly for construction, will be an increasingly important factor in expanding total construction in succeeding months as advances from this fund crystallize into definite contracts.

Residential construction, which declined to the abnormally low level of 8 percent of the 1923-25 average in the first quarter of 1933, advanced only to 13 percent in September. As purchasing power increases and the prospects for steady employment strengthen, home building which has been held back by the uncertainties of recent years is likely to increase considerably from the present low level. New Federal facilities for residential loans may be an important factor in stimulating activity in the spring of 1934.

Modernization and, in some lines, expansion of plant equipment may lead to some increase in factory building, but capacities in excess of present business requirements will tend to retard the rate of increase. No significant increase in the construction of apartments, hotels, office, and commercial buildings seems probable in 1934.

With the present stocks of automobiles not excessive and exports likely to be maintained, the prospect of an improved domestic demand indicates increased production and employment in the automobile industry in 1934. Although it is estimated that production in 1933 will exceed production in 1932 by approximately 50 percent, the number of motor vehicles scrapped or abandoned is expected again to exceed sales of new cars by about 1,000,000 units. With the decline of about 10 percent in the number of cars and trucks registered since 1930 and the advanced age of many of the motor vehicles now in use, a relatively strong domestic demand for automobiles and trucks is indicated for the coming year.

In addition to the increased demands of the railroads, the construction, and the automobile industries, miscellaneous requirements may be higher. Ship building, which has used very little steel in recent years, is being stimulated by the naval building program. The low level of machinery purchases by farmers in the last 4 years also indicates that any material improvement in farm income will be accompanied by some increase in the purchase of farm machinery, but this may be retarded for a while by the large amount of credit already outstanding to farmers both for machinery and for other short-term indebtedness. The depreciation of the dollar in terms of foreign exchange may be some stimulus to the export of steel products and of agricultural machinery.

In summarizing the outlook for the iron and steel industry for 1934, it seems probable that production will be somewhat higher than in 1932 or 1933 and perhaps larger than in 1931. Output will be dependent, in part, upon the credit facilities for financing long-term projects. At present it is difficult to



float new issues of long-term securities but governmental efforts in providing advances to railroads and for urban and rural real-estate mortgages, may tend in part to offset this unfavorable factor.

Some additional contribution to the output of industries using nonagricultural products may be expected from the lumber industry. The volume of lumber cut declined to a low of 20 percent of the 1923-1925 average in February and advanced to 46 percent in July and August, but in September dropped back to 36. The rise in output was stimulated, in part, by the low level of stocks at the beginning of the year. The trend of the lumber industry in 1934 will tend to follow that of construction and the need for lumber in industrial production. It seems probable that during the coming year there will be a gradual improvement in consumption which should result in a higher output than in 1933. The sharp rise in lumber prices from 104 percent of the 1910-14 average in February to 154 percent in September, however, may be a factor tending to retard consumption.

Income from agricultural production, including benefit payments, is likely to make some contribution to an increase in business activity. Gross income of farmers for 1933 has been estimated at \$6,360,000,000 an increase of about 24 percent over 1932. With the further improvement of consumer incomes in urban centers which is anticipated in the coming year, the gross income of farmers in 1934 should show some further improvement. The influence of this higher level of farm income may be expected to increase the demand for industrial products used on farms such as machinery, building repairs, fencing, etc.

#### PRICES

Commodity prices, similar to industrial production, have shown a marked recovery since the early part of the year. Wholesale prices after declining from 140 percent of the 1910-14 average in September 1929, reached their post-war low point of 87 in February 1933. A rapid rise from this low point brought prices back to the pre-war level in July, followed by a slightly upward trend which carried the index to 103 in September.

Prices of farm products (wholesale) which had declined further than the prices of other products in the 3½ years ended in February 1933, advanced 47 percent from their low point to July, but since that time they have lost a considerable part of this gain. Although the advance in the market prices of farm products from 57 in February to 80 percent of the pre-war average in September was more rapid than the advance in nonagricultural products, the prices of farm products in relation to pre-war remained lower than prices for any other specified group of commodities.

The rise in individual farm-product prices has varied greatly, depending primarily upon the influence, in relation to each commodity, of currency depreciation, increase in domestic demand, and alterations in supplies. An examination of the influence of these various factors upon prices provides a clearer basis for appraising the future trend of prices.

With the suspension of gold payments in the United States, there was an immediate response in the prices of most export and import commodities. The index of farm prices of grain advanced from 36 percent of the pre-war average in March to 94 in July, while cotton and cottonseed advanced from 48 to 84 percent. The advance in the price of export and import commodities, such as wheat, cotton, and wool, resulted primarily from the fact that, after adjustments for changes in exchange rates, prices of products entering into international trade must be approximately equalized in all countries once account is taken of transportation costs, tariffs, and other hindrances to the flow of those commodities in international trade. World prices also strengthened during this period, and in many export and import products the advance in prices was therefore greater than that which represented purely an adjustment of exchange rates.

The influence of the depreciation of the dollar in terms of foreign currencies has likewise been a factor in stimulating domestic demand. The higher prices in agricultural commodities influenced by foreign-market conditions have increased the purchasing power of farmers for the output of industry. Increased industrial output with higher pay rolls in turn has stimulated the demand for agricultural products. To the extent also that dollar depreciation has stimulated industrial exports, and hence industrial production, urban incomes have been further increased and their demand for farm products has been correspondingly enlarged.

To the extent that the prices of American commodities are affected by market conditions abroad, a further depreciation of the dollar relative to foreign currencies would raise domestic prices. The reverse of this process would be expected if the dollar should appreciate relative to foreign currencies, but it is probable that any sharp upward movement in the dollar could be prevented by the purchase of gold abroad under the policy recently announced by the President.

The influence of domestic demand, as measured by the increase of approximately 17 percent in urban incomes since March upon agricultural prices, has been reflected in larger money expenditures for products of the farm. Unlike the rapid advance in prices of export commodities, most of the commodities whose prices are largely determined by changes in the level of domestic demand have advanced in price only about as rapidly as the income of urban consumers. Thus, in the upward movement of prices which culminated in midsummer, farm prices of meat animals advanced from 56 percent of pre-war in March to 66 in July, farm prices of dairy products from 59 to 71 percent, and poultry products from 54 to 67 percent. In the case of many of these commodities heavy marketings have tended to check advances. With any further recovery of industrial activity, increased employment will result in an increased demand for farm products.

Reductions in prospective market supplies arising from drought, the production of principal crops in 1933 being the smallest since 1901, have had an appreciable influence in raising the prices of many farm commodities. It is not likely that total agricultural production in 1934 will be greatly different from that of 1933. Whereas, the unusually low yields of some crops curtailed production in 1933, the acreage-control program of the Agricultural Adjustment Administration and the measures that may be adopted to control the production of hog and other livestock products will be factors in holding down output in 1934.

In view of the recent marked advance in prices of nonagricultural products and the accompanying decline in prices of farm products, it seems probable that during the coming year prices of farm products will rise in relation to prices of nonagricultural products. The program of the National Recovery Administration appears to have hastened price advances in manufactured products partly as an adjustment to higher production costs. After most of those adjustments have been made, competition in the face of surplus productive capacity will probably retard price advances of nonagricultural goods to a slower rate relative to prices of farm products and other raw materials. As more definite knowledge of costs under the new codes is ascertained, the removing of this uncertainty may tend to increase commitments for raw materials, and this will be reflected in increased demand for farm products. With many of the costs of distribution, particularly transportation, remaining relatively stable, a rise in the central-market prices of farm products will be reflected in a proportionately greater increase in the prices received at the farm.

In summarizing these various influences on prices it appears that farmers in 1934 may anticipate a somewhat higher level of prices for their marketable commodities as well as improvement in the exchange value of their output. It should be borne in mind that the extent and character of the price rise will be affected by future monetary and credit policies which may alter substantially the conclusions drawn from any analysis of present conditions.

#### CREDIT CONDITIONS

The expansion of credit in the recovery period of former business cycles has been largely stimulated by the purchase of investments and by loans on securities on the part of commercial banks. Since the beginning of March investment holdings of weekly reporting member banks in 90 leading cities have increased only by about \$500,000,000, whereas loans on securities have decreased slightly. Commercial loans have increased by about \$400,000,000. Deposits have increased but mostly on account of a large return of currency withdrawn prior to the banking holiday. On September 22, 1933, there were approximately 2,500 banks, exclusive of mutual savings banks, having deposits of about \$1,765,000,000 which had not been reopened since the banking holiday. Should the deposits of these banks be released in part, as well as those of other banks closed prior to the banking holiday, a considerable increase in bank credit could be achieved.



Substantial recovery in the output of the heavy industries will tend to be retarded until long-term financing facilities show greater improvement. Conditions of the capital market affect industrial output and employment chiefly through their influence upon construction and upon the output of the iron and steel industry. Rapid advances in the average prices of bonds and stocks represent a recovery to about the levels of the fall of 1931. Despite this improvement, the capital market has shown little tendency to absorb new long-term issues. The annual volume of new security issues declined from \$10,091,000,000 in 1929, to \$1,165,000,000 in 1932. The total for the first 9 months of 1933 amounted to only \$507,000,000 compared with \$903,000,000 in the same period in 1932. Lack of adequate credit facilities to finance the purchase of durable goods whose cost must necessarily be amortized over a long period are, in part, being offset by special credit facilities provided by the Federal Government. These include the activities of the Federal Home Loan Board in providing mortgage funds for residential construction; farm mortgage loans from the Farm Credit Administration; and loans from the Emergency Public Works funds for (1) loans to purchase railroad equipment, (2) advances for road construction, (3) loans for public works, and (4) direct expenditures on Federal construction projects.

In appraising future credit development, there seems to be little immediate prospect for any material expansion of commercial bank credit unless special developments may foster this movement. Commercial banks, despite their large surplus legal reserves, have not made any substantial increase in their investment holdings and have limited their new advances primarily to short-term liquid loans.

Although commercial banks are not expanding credit, an adequate basis exists for such expansion. Member-bank reserves were approximately \$850,000,000 in excess of legal requirements in October and the Federal Reserve banks through their open-market purchases of Government securities have been adding approximately \$15,000,000 per week to existing reserves. This surplus of reserves is reflected by unusually low interest rates, commercial paper rates being quoted at  $1\frac{1}{4}$  percent in October as compared with 2 percent a year ago and an average of 4.27 per cent in the period of 1923 to 1927.

Improvement in the capital market, which will facilitate the refunding of bank loans made for capital or semicapital purposes, will encourage banks to advance more funds for sound loans of this character. Furthermore, the removal of the uncertainty that prevails as to the eligibility of banks to join the depositors' guarantee fund may lead to greater expansion of credit after the first of the year.

#### STOCKS OF RAW MATERIALS AND MANUFACTURED GOODS

The trend of prices will be influenced to some extent by the level of existing stocks of both raw materials and manufactured goods. Stocks of raw materials usually reach their peak at the lowest point of the business cycle and tend to decrease as increased industrial production results in greater consumption. Stocks of manufactured goods, on the other hand, usually reach their peak soon after the high point of the business cycle and decline as industrial production decreases. Thus domestic stocks of raw materials reached a high point during the depression of 1921 and fell off during 1922 and 1923. From 1923 to 1932 there was a fairly regular increase in domestic stocks including both raw materials and manufactured goods. Since 1932 stocks have decreased slightly. The trend in the stocks of manufactured goods has been quite different from the trend in raw-material stocks. In July 1933 the combined stocks of all manufactured goods were reported as 105 percent of the 1923-25 average. The domestic stocks of manufactured food products (meat products, wheat flour, butter, cheese, and milk) were reported in August 1933 as 126 percent of the 1923-25 average and the stock of unprocessed foodstuffs (wheat, corn, oats, barley, rye, sugar, eggs, poultry, apples, fish, and coffee) were reported at 213 percent. Domestic stocks of raw materials as a whole were reported at 166 percent in August 1933.

The reason for the decided difference in the stocks situation between raw materials and manufactured goods is simply that agricultural production has been maintained during the depression whereas there has been a drastic decrease in industrial production. From 1929 to 1932 industrial production dropped about 46 percent. Agricultural production remained about constant.

Crop marketings dropped about 25 percent and marketings of animal products dropped 12 percent.

Although some of the increased production of manufactured goods during the last summer has gone into increased stocks there also appears to have been some increase in consumer purchases of most groups of commodities, particularly clothing and other textiles. During the summer consumers were urged to buy clothing and many other commodities before prices went up. Retail sales of clothing and textiles were stimulated during July and August and probably many consumers have stocked up for a few months ahead. Other consumers who were not able to take advantage of the low prices will come into the market as their incomes are restored.

From 1923 to 1932 there was a strong upward trend in the world stocks of most important foodstuffs and raw materials. A combined index of the world stocks of coffee, copper, cotton, rubber, silk, sugar, tea, tin, and wheat indicates that in August 1921, stocks were 145 percent of the 1923-25 average. From that time until June 1923, they declined rapidly reaching a low point of 84 percent. From June 1923, until May and June 1932 there was a fairly steady increase in world stocks. In May and June 1932 the stocks index was 285 percent of the 1923-25 average. This increase in stocks has come about in spite of a sharp drop in world prices of these commodities beginning about the first of 1926. At the beginning of 1926 world prices of these commodities were approximately 100 percent of the 1923-25 average. They dropped rather gradually through 1926 until the end of 1929 when they were about 70 percent of that average; through 1930 and 1931 the drop in price was at an accelerated rate and at the end of 1931 the price had reached a level of about 30 percent of the 1923-25 period. There was some further decline in prices during most of 1932 in spite of a temporary increase during the early fall.

The increase in world stocks of foodstuffs and raw materials from 1923 to 1929 was largely the result of increased production of these commodities. From 1929 to 1932 the situation was aggravated by a severe drop in world demand for these products and consequently a falling off in consumption in spite of low prices.

Since the middle of 1932 there have been indications that the peak of world stocks has been passed and that world prices of the basic foodstuffs and raw materials have started on an upward trend. The world-stocks index has fallen slowly and irregularly from the high point of 285 percent in May and June 1932, and in July 1933 it stood at 266 percent. The world-price index of these commodities was 24.8 in June 1932 and has increased to 39.7 in August 1933. Most of this increase can be accounted for by the drop in the value of the dollar, but even on a gold basis the August 1933 price index was higher than that of June 1932.

To summarize the situation, the peaks of both world and domestic stocks of foodstuffs and raw materials appear to have been passed, but stocks of some of the most important foodstuffs and raw materials are at very high levels. Even though production of these commodities be reduced considerably both in the United States and in foreign countries, and even though demand may be increased, any large and sustained increases in prices of these commodities will be difficult until stocks are diminished from their present high levels.

## FOREIGN DEMAND

### EXPORTS

The value of agricultural exports from the United States in the year ended June 30, 1933, was 22 percent less than the value of the small exports of the preceding year and 68 percent less than that of the exports of 1928-29. On a volume basis, exports were 13 percent less in 1932-33 than in 1931-32 and 32 percent less than in 1928-29.

Since the depression started there has been a marked change in the proportions of the items going into our agricultural export trade. This shift has been due chiefly to the fact that the decline in value of exports of wheat and pork has been much greater than for the other export products. In 1932-33 cotton made up 55 percent of the total value of agricultural exports, as compared with 47 percent in 1928-29. Tobacco and fruit made up 11 percent each in 1932-33, as compared with 8 percent each in 1928-29. Meats and meat products, including animal fats and oils, constituted 9 percent of the



total in 1932-33, against 10 percent in the earlier period, and grain and grain products were less than 7 percent, compared with 18 percent in 1928-29. A continuation of this trend toward a larger proportion of our exports being made up of cotton, tobacco, and fruit is to be anticipated. Trade barriers have been especially high in regard to meat and other animal products and wheat. The increase in foreign competition has also been particularly noticeable in regard to these products.

#### INDUSTRIAL ACTIVITY IN FOREIGN COUNTRIES

There has been a considerable improvement since the summer of 1932 in industrial activity in the countries that provide the principal foreign outlets for American agriculture. The extent of the improvement has varied greatly in the different countries. Industrial activity in Great Britain has increased during the last year but to a lesser extent than has that of the major continental countries. Certain lines, such as pig iron and steel, have shown a marked improvement since the summer of 1932 and reports in recent months point to a general revival in business activity in that country. Important gains have been made in Germany and France and apparently in Italy, although definite data as to the extent of the improvement are not available. In Germany, where the industrial production index stood at 72 in August (1928=100), compared with 58.5 in August 1932, the gain in industrial production is to be attributed in part to the Government program directed toward increasing employment. This has also been the case in Italy. In France industrial activity has shown a steady increase from the low point of 73 in July 1932 to 87 in July 1933. In the case of all these countries the expansion appears to have been principally in production for the home markets. This has been made possible in part by increasing materially the restrictions on the importation of competitive foreign goods. The smaller industrial countries on the Continent, such as Austria, Czechoslovakia, and Belgium, seem to have fared less well. Some of them have made no gains in industrial activity and unemployment continues at or near record levels. No doubt this is due to their relatively greater dependence on export outlets for their manufactured goods.

Outside of Europe the principal markets for American agricultural products are to be found in Japan and China. In Japan industrial production has been on a materially higher level in 1933 than at any time in recent years. This is especially true of the cotton-textile industry. In China industrial activity apparently has been well maintained. To a large extent the increased textile production in both Japan and China has meant a shift in the exports of American cotton to those countries instead of to Great Britain, which formerly supplied a much larger part of the oriental requirements for cotton cloth.

A continuation of the improvement thus far evidenced in the European industrial situation would seem to rest largely upon the extent to which foreign outlets may be opened to European industrial products. Normally, European countries trade predominantly with each other but this exchange has been greatly reduced by trade restrictions and it now appears that an early expansion in export outlets must be largely in the nonindustrial countries of Latin America, Asia, and other parts of the world which are dependent for their purchasing power on the returns from agriculture and mining. An expansion in the outlet for European manufactures in the United States would also contribute greatly to the ability of European countries to absorb American agricultural products.

If the gains already made in prices of some primary products, such as wool, can be maintained and further extended, a marked increase in exports from the industrial countries of western Europe would doubtless result. The reduced outlets for European manufactures can be traced to an important extent to the reduced purchasing power of the nonindustrial countries and to the high import duties and other barriers to industrial imports to which, in some of these countries the disastrously low prices for agricultural and mineral products have contributed. The agricultural program now under way in the United States, which looks toward an elimination of unwieldy surpluses and an adjustment of supply to demand should lead to a rise in prices of some products in the world market. The completion of the international wheat agreement is one step in this direction. If these and similar efforts are successful in increasing the purchasing power of the surplus-producing countries, they would provide an important stimulus to continue the industrial recovery now under way in Europe.

## PRICE TRENDS IN FOREIGN COUNTRIES

A combined index of wholesale prices in the moneys of 8 foreign countries which take about 75 percent of the agricultural exports from the United States in April 1933, reached a low for the depression of 65.9 (1926=100). From April to July the index rose a little each month but fell back slightly in August to 67.9. The currencies of these 8 countries were about steady to slightly higher in relation to gold from April to August except in Canada whose money depreciated considerably in terms of gold. During this period wholesale prices in the United States increased 17 percent in terms of currency.

Price trends have varied considerably in different foreign countries. In the countries still on the gold-par standard, such as France, the Netherlands, and Switzerland, the long downward trend in prices starting in 1929 was halted in the period March to May 1933 and prices are now slightly above the early 1933 lows. In Germany prices have risen slowly but steadily since April 1933. In Great Britain wholesale prices have shown a fairly level course since the abandonment of the gold standard in October 1931, but since March 1933 prices have been moving upward. In Japan prices rose sharply after the abandonment of the gold standard in December 1931, declined during the first half of 1932, and then moved upward to a high point in January 1933, fell sharply in February, and have since leveled off. Prices in Italy have continued to move downward and in September they fell to the lowest point thus far reached in the depression.

## TRADE-BARRIER TENDENCIES

There is little prospect of any substantial reduction during the coming year of the trade barriers that have grown so rapidly during the depression. Although the increases in these barriers have been largely a consequence of the depression itself, the revival that now appears under way does not seem likely to be accompanied by a return to the much less restricted trade of the years preceding the depression. Although certain tendencies now exist that operate in the direction of reduction there are counter tendencies that seem likely to prove stronger for the immediate future.

Among the tendencies that are likely to increase the severity of trade barriers during the coming year, the most important is the continued growth of economic nationalism in many countries, Germany being the most extreme example at present. The disturbed international political situation is a significant factor in shaping international economic policies. Germany has been striving in recent years to become self-sufficient in regard to food products. In regard to grains and meat this goal has almost been reached and there are some prospects of a modification of the present German policy of encouraging wheat production. In regard to other products, the movement toward self-sufficiency continues unabated. At present, oils and fats are in the forefront of the program. The import duty on lard (which has come chiefly from the United States) is now \$10.80 (gold) per hundred pounds as compared with \$0.65 in 1929.

Another tendency closely associated with economic nationalism is the adoption of measures intended to strengthen economic ties between countries that have important political associations with one another or that are in close geographic proximity. The most notable example of the first is the system of agreements made between the various parts of the British Empire at the Ottawa Conference in 1932, of which the economic effects on American agriculture have not yet fully been felt. The efforts of various European countries to conclude preferential bilateral agreements among themselves illustrate the second. All such arrangements, insofar as they are made effective by increasing the restrictions applied to outside countries, represent a tightening of trade barriers.

A third tendency making for further increase of tariff barriers is the preparation that is now being made by certain countries for tariff bargaining with other countries. Here the most notable example is France, which in recent months has greatly intensified its quota restrictions apparently with the aim of securing concessions from the countries affected by these restrictions in return for a liberalization of quotas to the level prevailing a few months ago. Thus the French quotas on certain agricultural products that are of importance in the United States export trade, such as apples, pears, and meat, have been reduced, for the last quarter of 1933, to minor or insignificant fractions of the totals during the last quarter of 1932.



Moreover, the effects of certain trade barriers now in operation have not yet been fully felt. An outstanding example is the present system of restriction of imports of bacon and hams in Great Britain which is part of a program intended to increase hog production steadily during the next few years and to effect a corresponding reduction of imports.

Some further increases of trade restrictions by the United States also appear to be in prospect. Under the National Industrial Recovery Act, the President is given authority to license imports when it appears that increased imports would otherwise interfere with the effectiveness of codes and agreements adopted under this act.

There are, however, some factors which will probably make for reduction of certain barriers in the near future. The unprecedented increase of barriers in recent years has led the Government of almost every country to realize that some reduction of the barriers of other countries is essential to the prosperity of its own export industries. Consequently there is a movement under way to make new commercial treaties involving reciprocal reduction of trade barriers. The United States Government is entering into trade negotiations with a number of foreign Governments. Progress through bilateral negotiation is at best likely to be slow. Furthermore, any tariff-rate concessions by the United States in connection with such negotiations must receive Congressional approval.

Another factor favorable to some reduction of trade barriers is to be found in the recently concluded international wheat agreement in which provision is made for a reduction of import duties and other restrictions on imported wheat when there is a specified rise in wheat prices on the world market. Furthermore, since many of the high duties and other restrictions on imported products are due to a considerable extent to the fall in world prices of these products a substantial betterment in prices would in itself lead to some reduction in import barriers.

Stabilization of international exchanges probably would also tend to lessen the severity of trade restrictions. The departure of many countries from the gold standard has led other countries remaining on the gold standard to impose restrictions on imports from the former. Moreover, the extremely severe exchange restrictions adopted by a number of European countries, which have greatly reduced international trade, have been the result of an attempt on the part of these countries to avoid depreciation of their currencies. There are some signs at present that these exchange restrictions are becoming less severe. A definite stabilization of exchanges would materially lessen the obstacles to international trade, but even without it, a reduction of fluctuations in exchange rates would be helpful.

## AGRICULTURAL CREDIT

The farm-credit outlook for 1934 is characterized by a continued small volume of loanable funds from the usual commercial sources and enlarged Federal facilities for both short- and long-term credit. Prices of supplies will probably be higher but the demand for production credit will tend to be reduced from what it otherwise would have been by the reductions in cultivated acreage in 1934, and by cash funds flowing into agricultural areas as benefit payments under the Agricultural Adjustment Act. Low interest rates in central money markets assure low cost of loanable funds to agricultural credit corporations, production credit associations, and cooperative banks. Funds for mortgage loans through the Federal land banks will be more plentiful than in recent years as a result of the new Federal legislation enlarging the activities of these institutions. The volume of real-estate loans from other sources will probably be small, in view of the large volume of delinquent loans and the still relatively low level of farm income.

## SUPPLY OF CREDIT

Deposits in country banks are lower than a year ago. Total time and demand deposits of active member banks of the Federal Reserve System located in places of less than 15,000 population in 20 of the leading agricultural States declined 24 percent from August 1932 to April 1933. The decline in the cotton States was 11 percent and in the Corn Belt States, 32 percent. Between April and August 1933, deposits in country banks recovered somewhat, but in the 20 leading agricultural States they were still 19 percent below what

they were in August 1932. In the cotton States and Corn Belt States, deposits in August 1933 were 5 and 22 percent, respectively, below what they were a year earlier.

The number of banking institutions that are in a position to serve agricultural areas has been drastically curtailed by bank suspensions and by arrangements restricting the withdrawal of deposits. Between June 1932 and June 1933 the total number of unrestricted active banks in the United States, exclusive of mutual savings banks, decreased from 18,452 to about 13,774. Total deposits in such active banks decreased in this period from 35 billion dollars to somewhat less than 32 billion dollars. Most of this drop occurred in the early part of 1933 as the result of the failure of a large number of banks to reopen after the banking holiday.

The efforts that are now being made to release a portion of the deposits tied up in these closed or restricted institutions may be a material factor in improving farm-credit conditions, inasmuch as most of the closed banks are located in agricultural communities. On September 22 the deposits tied up in banks closed since the banking holiday or operating on a restricted basis totaled \$1,765,669,000.

In most areas reports indicate that the country banks that weathered the depression and that are now open on an unrestricted basis are in a more liquid position than they were a year ago and will probably be in position to extend slightly more credit in 1934 than the same banks did in 1933. The supply of bank credit, however, may be influenced by the new deposit-insurance plan which becomes effective January 1, 1934. If some country banks should be unable to meet requirements for this insurance fund, the bank loans available to farmers in localities served by such banks may be thereby reduced.

Credit from merchants and dealers is not likely to be much greater in 1934 than was the case in 1933. Reports from manufacturers of fertilizer indicate that they anticipate slightly larger sales, the estimated average increase being approximately 3 percent over the sales in 1933. These reports also indicate that a slightly larger number of dealers will require credit than in 1933, but that the proportion of farmer purchases on credit will be about 35 percent or the same as last year.

Agricultural credit corporations discounting with the Federal intermediate credit banks are generally in a stronger position than they were at this time last year. This results from the fact that prices in 1933 improved sufficiently to bring about a better liquidation than was the case in 1932. In 1932 prices were generally lower at marketing time than at the time when loans were made, whereas during 1933 the reverse of this situation has prevailed. Improvement is most pronounced in crop-financing corporations and least pronounced in livestock-loan companies, except those primarily financing sheep and feeder cattle. Nevertheless, livestock-loan companies have obtained some liquidation of loans made on high livestock values and have replaced many loans with new loans or renewals based on lower values.

The facilities of the Federal intermediate credit banks will be more generally available to farmers in 1934 than in the past. As a result of recent legislation new local discounting agencies, which farmers can utilize for obtaining production loans, will be in operation in many areas. These local agencies, which are being organized under the Farm Credit Act of 1933, are known as "production credit associations." This act authorized the organization of production credit corporations in each Federal land-bank district to furnish the initial capital needed for the establishment of local production credit associations.

The organization of the production credit corporations is proceeding rapidly, and it is expected that by the close of 1933 a corporation will be in operation in each of the 12 districts of the United States. The organization of production credit corporations is followed by the formation of the associations, and it is planned that by the spring of 1934 every agricultural community will be served either by a local production credit association or by a central association serving an entire land-bank district. The regional agricultural credit corporations set up in 1932 will continue to make loans to farmers in each district until credit can be furnished by production credit associations.

A new type of credit for cooperative associations was also provided by the Farm Credit Act of 1933. As a consequence, farmers' cooperative associations



that are organized on a sound basis and that can offer adequate security should have no difficulty in obtaining credit at moderate rates of interest. As of October 26, the Central Bank for Cooperatives in Washington, D.C., and 5 of the 12 regional banks authorized by this legislation have been organized. It is expected that by January 1, 1934, or shortly thereafter, there will be a regional cooperative bank in each land-bank district to supplement the facilities of the Central Cooperative Bank, which serves the needs of large cooperatives.

Central money-market rates which influence the cost of credit obtained from agricultural credit corporations, production credit associations, and the banks for cooperatives, are at record low levels. Commercial paper, which has a high degree of liquidity compared with most agricultural paper, was quoted in October at  $1\frac{1}{4}$  percent compared with  $1\frac{3}{4}$ - $2\frac{1}{4}$  percent a year ago. Call money was available at three fourths of 1 percent and the rate on bankers' acceptances was one fourth of 1 percent compared with 2 percent and three fourths of 1 percent, respectively, in October 1932. In view of the fact that the present cost of commercial credit is unusually low, it seems probable that short-term interest rates may be somewhat higher in 1934, although at levels which will be relatively low compared with those of previous years.

Cash receipts from the sale of crops and livestock will be substantially supplemented by benefit payments made and to be made under the Agricultural Adjustment Act. These supplemental payments, together with the somewhat better prices for farm products in the fall of 1933, as compared with those obtained last year, should reduce materially the demand for farm credit in practically all areas from what it otherwise would have been.

Acreage rentals for 1933 to cotton growers amount to approximately \$111,000,000. The bulk of this sum has already been distributed. The various cotton-growing States share in these rental payments about as follows: Alabama, \$9,533,000; Arizona, \$264,000; Arkansas, \$10,424,000; California, \$170,000; Florida, \$359,000; Georgia, \$7,898,000; Kansas, \$3,000; Kentucky, \$34,000; Louisiana, \$4,923,000; Mississippi, \$10,347,000; Missouri, \$1,827,000; New Mexico, \$344,000; North Carolina, \$2,176,000; Oklahoma, \$10,941,000; South Carolina, \$4,757,000; Tennessee, \$3,256,000; Texas, \$44,366,000; and Virginia, \$140,000.

The wheat-adjustment payments to be paid this fall will amount to about \$70,000,000. Nearly a third of these payments will go to the two leading wheat States of Kansas and North Dakota, and roughly, another third will be divided among the six States of Nebraska, Oklahoma, Montana, Washington, South Dakota, and Texas, which will share in the order named. Of the remaining third, a substantial part will go to Illinois, Ohio, Idaho, Indiana, Oregon, Minnesota, and Missouri, while most of the remaining States will share in these payments to some extent, depending on their relative importance as wheat producers and on the extent to which farmers cooperate in the wheat-adjustment plan.

The first installment of the corn-and-hog benefit payments, should bring into the corn-producing States prior to next spring sums of money about two and one half times the total of the initial wheat-benefit payments above indicated. A large percentage of the States will share in greater or lesser degree in these corn-and-hog payments. The majority of commercial corn-and-hog producers live in the 10 Middle Western States of Ohio, Indiana, Illinois, Missouri, Kansas, Nebraska, Iowa, South Dakota, Minnesota, and Wisconsin.

Approximately \$25,000,000 in adjustment payments will be paid out to tobacco growers prior to or during the 1934 crop season. These payments will go largely to the Carolinas, and to Kentucky, Virginia, Georgia, and Tennessee. Several other States including Pennsylvania, Connecticut, Ohio, Wisconsin, Maryland, and New York will receive substantial amounts. Distribution of these payments has already begun.

Additional installments of benefit payments on several of the products above mentioned are expected to be distributed prior to the harvesting and marketing season of 1934.

The plan of making loans direct to farmers on cotton and corn, warehoused under stipulated requirements, which in the case of corn include State-licensed storage on the farm, will provide a new source of credit in the months immediately ahead. These loans, on a value basis of 10 cents per pound for cotton and 50 cents per bushel for corn, minus the normal spread between the local price and the central-market price, are being made through a newly-created Federal institution, the Commodity Credit Corporation.

## DEMAND FOR CREDIT

The demand for production credit in 1934 is not likely to show much change from 1933. Prices paid by farmers in general will be higher than in the current year, but acreage-restriction plans and benefit payments, under the Agricultural Adjustment Act, will tend to offset the need for credit arising from higher prices for supplies. Operating expenditures of farmers declined each year from 1929 to 1932, partly as a result of low prices and partly as a result of decreased buying. In view of the drastic curtailment in the quantity of goods bought in the last 2 years, it is likely that quantities purchased in 1934 will exceed those of 1933, even though certain expenditures may be somewhat reduced by reason of acreage restrictions. Larger expenditures for new capital goods may be expected since outlays for this purpose have been generally postponed in the last few years.

Farm-mortgage credit during the last year showed a steady decline in the volume of both new and outstanding loans. Farm foreclosures, by reason of the low level of farm income and the further decline of land values to an index level of 73 in March 1933 as compared with 89 a year earlier, have contributed largely to the reduction in volume of farm-mortgage credit. Holdings of all classes of mortgage lenders, except the Federal land banks, have been reduced substantially from a year ago. Outstanding farm loans of life-insurance companies declined 6 percent during the first 9 months of 1933 as compared with 4 percent during the corresponding period of 1932.

New farm-mortgage loans also have declined greatly. Average weekly investments in farm mortgages by companies representing over 80 percent of life-insurance assets averaged only \$500,000 per week during the first 9 months of 1933 as compared with \$900,000 in 1932 and \$2,000,000 per week in 1931. New loans by the Federal land banks were smaller in volume than usual during the year, but increased sufficiently in August to produce an upturn in outstanding loans. At the end of October, new loans by these banks and loans by the Land Bank Commissioner from funds provided by the Reconstruction Finance Corporation were being made at a rate in excess of \$1,500,000 per day, compared with an average a little over \$2,000,000 per month by the land banks in 1932. The current rate of loan approvals indicates that the rate of loan closings will increase still further in the near future.

Farm-mortgage interest rates on loans by commercial agencies remained essentially unchanged during last year. Rates on most loans have been 5½ to 6½ percent, with a range of 5 to 8 percent. Occasional instances are reported of renewals made at 4 to 4½ percent. In many instances rate quotations have had only nominal significance because of the virtual absence of loanable funds. Rates to borrowers on loans from the Federal land banks remained at an average of 5.58 percent throughout the year until July when the contract rate on new loans was lowered by all banks to a maximum of 5 percent. For a 5-year period, a rate of only 4½ percent is required of borrowers through national farm-loan associations.

## DELINQUENCIES AND FORCED SALES

Delinquencies and forced sales continue high. Mortgage bankers operating mainly in the North Central and Southwestern States estimate that an average of 43 percent of the loans in their loan territories were delinquent as of October 1933, as compared with 39 percent a year earlier. The high percentage of delinquencies in the drought areas contributed heavily to this increase. An average of 10 percent of all loans in this territory were estimated to be in process of foreclosure, or the same proportion as a year ago. Some areas report that both delinquencies and foreclosures are less than last year, and that much of the increase in farm income is being used in paying debts. Foreclosures include only forced sales incident to formal court action. For several years technically voluntary transfers of title to avoid foreclosure have constituted an increasing proportion of forced sales.

The number of forced sales for debt in the country as a whole during the year ended March 15, 1933, exceeded those of any previous 12 months for which data are available. Various temporary-stay measures taken by States, and an amendment to the Federal Bankruptcy Act providing for inexpensive procedure for facilitating compositions and extensions, have given some relief. Governors' temporary-relief proclamations in several States have expired. In a number of other States debt-relief statutes remain in force and have had the



effect of postponing foreclosure and thus affording better opportunity to make desirable adjustments. In many instances, however, the debtor's position has been difficult to improve, and the expiration of declared emergency periods again presents the problem of settlement. The recent appointment of additional State and local conciliation commissions to assist farmers in effecting voluntary readjustments of their indebtedness, so as to make it possible for such indebtedness to be refinanced through the large resources of the Farm Credit Administration, should in many cases bring about substantial relief. A majority of recent reports suggest that the current outlook is better than a year ago.

Through 1931 and 1932 farm transfers, except distress sales, were very few. It appears that the higher or rising prices of 1933 stimulated sales activities somewhat during the summer, though interest in the purchase of land declined with the recession in farm prices during the late summer. Renewed improvement in prices may reasonably be expected to encourage increased activity in land transfer. Although the majority of sales probably will consist of the disposal of properties acquired by institutional mortgagees and will, therefore, be financed principally by the seller, it is probable that some increased demand for mortgage credit will develop from such increased activity. With much lower land values than in 1930 and with a vivid memory of recent difficulties on account of debt, it is likely that the increased demand for new mortgage credit will be moderate. The effort of mortgagees to reduce their loans to a more nearly normal ratio to value, and the efforts of mortgagors to escape foreclosure and to improve their financial positions are likely to result in continued heavy demands for refinancing of existing loans.

### FARM LABOR, EQUIPMENT, AND FERTILIZER

The cost of producing farm products has increased during the last 6 months with the general rise in prices and is expected to increase further during 1934. The farm wage bill and expenditures for commodities used in production make up a large portion of this cost. On September 15 a composite index covering wage rates and the prices of items used in farm production stood at 107 percent of pre-war, or 14 percent higher than in March and 7 percent higher than in September 1932. Feed prices have shown the most pronounced increase since last March but prices of building material, seed and fertilizer, and wage rates have all made marked advances, and farm-machinery prices also were slightly higher in mid-September. Advancing wholesale prices, increasing employment in industry, and increasing costs of production for many of the commodities farmers buy will continue to increase farm-production expenditures.

The response of prices paid by farmers for articles purchased to the advance in wholesale and retail prices has been much quicker than usual after a change in the trend of the general price level. This is accounted for partly by the sharp rise in prices after the suspension of gold payments. The advance in prices paid by farmers that would be expected naturally to result from such action has been accelerated, however, by the governmental program encouraging the raising of wage rates and the increase of employment in industry. Although this program has increased farm-production costs, it has also been and will continue to be instrumental in increasing the demand for agricultural products. These factors, together with smaller crop supplies, have raised prices received by farmers for agricultural products 40 percent from March to September of this year. In September local market prices of farm products were 19 percent higher than a year earlier.

### FARM LABOR AND WAGES

Prospects for further improvement in business activity and an increase in employment in nonagricultural pursuits indicate that the supply of farm workers available for hire will be somewhat smaller in 1934. The demand for hired farm workers is not likely to improve materially in 1934, since any increase in crop production that might be expected from more nearly normal yields may be partly offset by the combined efforts of farmers and of the Agricultural Adjustment Administration to effect a reduction in acreages of the more important cash crops. In the South, planters doubtless will not need as many cropper-tenant families to produce the smaller acreage of cotton anticipated. In the wheat belt, acreage reduction also will reduce the number of hired workers needed. The corn-hog reduction program will decrease still further the demand

for hired laborers in the Corn Belt. Some improvement in the demand for farm labor is certain, however, if prospective increases in prices of farm products and total farm income materialize. In consequence, it is highly probably that 1934 farm-wage rates will be materially above those prevailing this year. There is no indication to date that minimum wage rates will be applied to agriculture.

The general level of farm wages has averaged lower so far in 1933 than in any year since 1902. At 80 percent of pre-war for the first 9 months of this year, the index was about 7 percent below that for 1932 and 31 percent under 1931. Normally farm wages reach the lowest levels of the year on January 1, then increase sharply on April 1, and slightly faster to July 1, reaching a peak on October 1 a little higher than in July. Since April 1930, however, a decline was registered in every successive quarter until July of this year. A greater-than-seasonal upturn in wages since April 1933 indicates that the low point in wage costs during the depression period has been passed. But wage rates during 1933 will average lower than in 1932 because of the extremely low levels recorded in April and July.

The low level of farm-wage rates established last April was due to the large volume of workers in rural communities available for hire and the comparatively limited demand for their services. Many industrial workers had drifted into rural communities in search of a livelihood at that time. Recently, however, the movement has been toward the city, the return being speeded by the efforts of the National Recovery Administration in the campaign to encourage the reemployment of idle industrial workers at or above the minimum wage rates subscribed to by employers in the various codes. The success of this campaign is evidenced by the decrease in the supply of farm labor from 126 percent of normal on April 1 to 111 on October 1. This represents a decline of 12 percent in the supply as between the two dates, whereas the normal seasonal decline amounts to only about 3 percent. On October 1, 1932, the farm-labor supply was reported by crop correspondents at 124 percent of normal. Prospective recovery in the heavy industries that are now lagging, probably will further reduce the surplus supply of farm labor in 1934, but there is now no indication that a scarcity of workers will develop.

The demand for hired farm workers also has increased since last spring, the October 1, 1933, average of reports from crop correspondents amounting to 68 percent of normal as compared with 59 on April 1 and 61 a year earlier. This increase in demand was due largely to the advance in prices of farm products which rose from 53 percent of pre-war in April 1933 to about 70 percent in October, and increased farm income to a somewhat smaller extent. Demand did not rise as fast as prices or income, however, because crop production was about 6 percent under average this year and farmers were enabled to do a greater proportion of their own work than usual. Although farm prices and farm income are expected to be higher in 1934 than in 1933, the increase in the demand for farm labor probably will not be correspondingly as large, inasmuch as smaller acreages of important cash crops probably will be planted as a result of Agricultural Adjustment Administration activities.

#### BUILDING MATERIAL

The prices of nearly all building materials used by farmers and the wages paid by them have been advancing since March 1933, thus increasing the cost of building and building repairs on farms. From March to September wholesale prices of building materials advanced 18 percent and prices paid by farmers for building material advanced 14 percent. Advances in the price of lumber, which is the most important building material bought by farmers, have been much greater than the advance in the prices of all building materials. No index is available for measuring changes in labor costs to farmers for building, but it is probable that this has made an advance similar to the advance in farm wages to hired laborers. From April to October 1, the level of farm wages increased 19 percent whereas the usual seasonal advance is only about 7 percent.

A code of fair competition of the lumber and timber-products industries was approved August 19. The purpose of the code was "to reduce unemployment in the industries reported, improve standards of labor, maintain a reasonable balance between production and consumption, restore prices to levels which will avoid further depletion and destruction of capital assets, and to conserve forest resources and bring about sustained yield from the forests." Wage rates under the code are equal to or slightly higher than those prevailing in



1929 and materially higher than the wage rates of 1932, especially in the Southern States.

Wholesale prices of lumber in 1929 were 174 percent of the pre-war average but then declined to 103 percent in August 1932. From August 1932 to February 1933 wholesale prices showed little change but from February to September prices advanced sharply from 104 to 152 percent of pre-war. Wholesale prices of many other building materials such as brick, pipe, cement, barbed and woven wire, and nails have also advanced since March but not so sharply as have the prices of lumber.

This sharp rise in wholesale prices of lumber has already been reflected in the prices paid by farmers for building materials. From 1929 to March 1933 the index of prices paid by farmers for building materials declined from 159 to 119 percent of pre-war prices, but by September 1933 the index had advanced to 136 percent of the 1910-14 average.

#### FARM MACHINERY AND EQUIPMENT

The wholesale prices of farm machinery have remained practically unchanged since February at 114 percent of the pre-war level. In September of this year prices were about 2 percent below the same time a year ago. Retail prices of farm machinery have also shown but slight changes so far in 1933 and in September were about 1 percent lower than a year ago. Sales of farm machinery in the United States in 1933 continued at the unusually low level of 1932 and were much below the normal replacement necessary to maintain the farming equipment on farms.

The outlook for farm-machinery prices in 1934 is very uncertain. As the code of fair competition for farm machinery under the National Recovery Act did not become effective until October 23, the machinery manufacturers have not yet been able to determine the effect of the code upon the cost of producing farm machinery. Wage rates under the code are higher than those prevailing prior to the time when the code went into effect and hours of work have been shortened, which will probably result in some increase of cost of labor in the production of farm machinery. As labor makes up a large part of the total cost of farm machinery, any increased labor cost due to the labor code is likely to result in higher farm-machinery prices. Prices of lumber, steel, and other products used in the manufacture of machinery and equipment have also advanced, so that it seems probable that higher costs of manufacture and distribution of farm machinery are inevitable for 1934.

#### FERTILIZER

Wholesale prices of fertilizer materials reached a low of 72 percent of the 1910-14 average in February 1933. Since February, however, the general trend in prices has been upward, the advance from February to September being 8 percent. The organic ammoniates showed the largest increases in prices. The price of tankage at Chicago was 62 percent higher in September than in February and the price of cottonseed meal at Memphis was 53 percent higher. There was relatively little change in prices of mineral ammoniates, prices of sulphate of ammonia rising 20 percent, while prices of nitrate of soda were unchanged. Wholesale prices of superphosphate increased \$1.10 per ton, or 18 percent. There was no change in prices of muriate of potash, but prices of sulphate of potash declined 11 percent.

The rise in prices of fertilizer materials has been reflected in higher prices to farmers. The index of prices paid by farmers rose from 91 percent of the pre-war average in March to 99 percent in September. During the last 3 years retail prices of fertilizer declined much less than prices received by producers for farm products. With the rise in the general price level since February, prices of farm products have increased more rapidly than prices of fertilizer. The higher prices that farmers are receiving for crops this fall as compared with a year earlier will probably result in an increased use of fertilizer in 1934. Programs for reducing the acreage of cotton and tobacco may offset, in part, the effect of the higher prices of farm products in stimulating the use of fertilizer the coming season.

Wholesale prices of fertilizer materials are higher than a year ago and at about the same level as in the spring of 1932. The outlook for the coming season is for retail fertilizer prices higher than last season but not greatly different from the prices prevailing in the spring of 1932.

## WHEAT

The world wheat market continues to be depressed by accumulated stocks of wheat, a high level of production, and severe restrictions on the importation and use of wheat by European countries. During October, the price of wheat at Liverpool, when measured in terms of gold, fell to the lowest level that has been reached in modern history.

Prices in the United States thus far this season have been higher than last year not because of improvement in the world wheat situation but because of factors peculiar to the United States. United States prices are measured in terms of a dollar which is now (November 3) depreciated by about 35 percent. Furthermore our prices have been high this year relative to those of world markets even when both foreign and domestic prices are measured in terms of our depreciated currency. From mid-March through July this appears to have been due in part to speculation as to further depreciation of the dollar, but at present the relatively high price in the United States is due primarily to the very short crop harvested this year. Prospective reductions in wheat acreage and the steps taken to finance exports from the Pacific coast have also aided in maintaining United States prices at relatively high levels. Even as governmental action along various lines during the last six months has been a prime factor in raising wheat prices in the United States above their levels of last year, governmental action may continue to be of great importance in affecting the level of wheat prices in the United States during the coming year.

## ACREAGE

The acreage of wheat sown in the world, excluding Russia and China, has thus far shown no significant decline from the peak level that was reached in 1932-33 in spite of 4 years of low prices. The reduction has been confined to the exporting countries and has been greatest in the United States where the area sown has declined from 71,000,000 acres in 1928 to 63,900,000 in 1933. The combined acreage for Canada, Argentina, and Australia (sown acreage for Argentina and harvested for Canada and Australia), on the other hand, was at a high point in 1930-31 with an area of 64,300,000 acres, while in 1933 it had declined only to 59,400,000. In the four exporting countries of the lower Danube Basin there has been a decline from the peak of the harvested acreage of 20,900,000 reached in 1931 to 19,800,000 acres in 1933. In the importing countries of Europe there has been a marked upward trend in acreage since 1929, when the wheat price-supporting measures of the various importing countries began to be more drastic. In 1929 the wheat area of these importing countries of Europe amounted to 51,700,000 acres while in 1933 it reached a new high level of 57,400,000 acres. For the world, excluding Russia and China, total acreage (sown acreage for the United States and Argentina, harvested for other countries), which reached a peak of 263,900,000 acres in 1932-33 is now estimated at 263,300,000 for the current season.

The Russian wheat area which increased rapidly from 39,200,000 acres in 1923 to 92,100,000 in 1931 has been somewhat lower in the last 2 years. It amounted to 85,500,000 acres in 1932 and for the current season is indicated to be about 80,000,000 acres. The increase in Russian wheat production which has accompanied this extension of acreage has been largely absorbed within the country and has had little effect on world markets as compared to the effect a similar increase in another exporting country would have had. Nevertheless, Russian exports in the last three seasons have averaged 67,700,000 bushels yearly. In view of the fact that the expansion of the wheat area has been checked, Russian wheat exports may average less during the next few years, if periodic food shortages are to be avoided.

## CARRY-OVER

The carry-over of wheat into the current season apparently sets a new record for the world (excluding Russia and China). The increase in world stocks was principally accounted for by record holdings in North America, by large supplies still available in the Southern Hemisphere and by a considerable increase in stocks in the deficit areas of Europe where the abundant harvests of 1932 led to the concentration of heavy supplies of native wheat, particularly in Germany, France, and Spain. These increases were more than sufficient to offset moderate decreases in holdings in other exporting areas and in some



of the minor importing areas. The carry-over in the principal exporting countries, together with quantities afloat and port stocks in the United Kingdom as of July 1, 1933, was the highest on record, amounting to 782,000,000 bushels compared with the previous high of 698,000,000 reached a year earlier and what may be considered a normal level of such stocks of about 300,000,000 bushels.

#### WORLD WHEAT AGREEMENT

Favorable aspects of the world wheat situation are to be found in the prospect for improved business conditions for the world as a whole, and the possibility of a material reduction in wheat acreage and relaxation of import restrictions as a result of the London Wheat Conference. (The prospects for business activity of the world are discussed in some detail in the section of this report relating to demand.)

At the conference, importing countries agreed not to encourage any further extensions of their wheat area and to adopt "every possible measure to increase the consumption of wheat." They agreed to begin to reduce wheat tariffs after the world price of wheat has been maintained for a period of 16 weeks as high as 63.02 gold cents per bushel (British parcels have recently been averaging in the vicinity of 42 cents per bushel in terms of gold cents). Beginning in the season 1934-35, after the present season's large crop is consumed, they will undertake the gradual relaxation of other restrictions on wheat imports with the aim of restoring more normal conditions in the wheat trade.

In the agreement between the exporting and importing countries, Argentina, Australia, Canada, and the United States agree to limit exports during the 1934-35 crop year to a quantity not exceeding the exportable surplus that will result in case each country has average yields and makes a 15-percent reduction in the area sown. In addition, the four exporting countries of the Danube Basin undertake to export not more than 54,000,000 bushels during the 1933-34 season and not more than 50,000,000 bushels in 1934-35.

In the supplementary exporters' agreement between Argentina, Australia, Canada, and the United States, export quotas for the crop years (August-July) 1933-34 and 1934-35 were tentatively fixed. Argentina is allotted a quota of 110,000,000 bushels for the current year and 148,000,000 in 1934-35, or an average for the 2 years of 129,000,000 bushels, compared with average exports of 155,000,000 bushels during the last 5 years. The Australian quota is 105,000,000 bushels for the current season, and 150,000,000 bushels for next, compared with a 5-year average of 123,000,000 bushels. Canada is allotted 200,000,000 bushels for 1933-34 and 263,000,000 for 1934-35, or an average of 231,000,000 bushels, compared with 268,000,000 exported on the average in the last 5 years. The United States quota is 47,000,000 bushels for the current season and 90,000,000 for 1934-35, or an average of 68,000,000 bushels for the 2 years, compared with average exports during the last 5 years of 110,000,000 bushels. The quotas allotted Canada and the United States are minimum quotas, which may be increased if import demand warrants, in order to reduce surplus stocks in these countries.

In case yields in Argentina and Australia are low this year, these countries may not be under the necessity of reducing the 1934-35 acreage or denaturing wheat. If this year's yields are average or above, however, both countries will probably find it necessary to curtail acreage in 1934-35, for they are obligated not to accumulate abnormal stocks as well as to limit exports. In the United States and Canada, with average yields and exports amounting to no more than the minimum quotas, acreage reductions of about 15 percent will be necessary in order to prevent stocks from increasing as a result of the 1934 harvests.

The agreement to reduce acreage and limit exports represents an important forward step, and, unless unfavorable developments occur, it should tend to aid in decreasing acreage in both the importing and the exporting countries and thereby lead to a more satisfactory balance between production and consumption. It also provides a more tangible basis for reducing wheat-trade restrictions of the importing countries, once there has been a material and sustained advance in world wheat prices.

#### PRICES

Under normal conditions the spread between United States prices and world prices is closely related to the quantity of wheat the United States exports. Over short periods the quantity exported is determined primarily by

the price spread, while over long periods, the quantity that needs to be exported largely determines how high United States prices are compared with world prices—the larger the surplus the lower the United States price. In almost every year prices in some regions of the United States are on an export basis for at least a part of the year, and this usually means that Chicago prices must be about 10 to 20 cents per bushel (assuming present-day freight rates) below Liverpool during such periods. In exceptional years such as 1925–26, 1930–31, and the current year, United States prices have been far above an export basis throughout a large part of the year.

In 1925–26 this fact was due to our extremely short crop of winter wheat harvested that year, while during the latter half of 1930–31 it was due primarily to the operations of the Grain Stabilization Corporation. In the current season relatively high United States prices are due partly to the very short crop of wheat, a crop which is less than the probable consumption by about 100,000,000 bushels, but this influence has been reinforced by prospective acreage reduction and by the governmental aid given to exporting in the Pacific Northwest. During July, the expectation of further depreciation of the dollar was also an important contributing factor.

#### AMERICAN PROSPECTS

Prospects are that the United States will again have a surplus of wheat for export in the 1934–35 crop year. As a result of this season's short crop and governmental aid in disposing of excessive surpluses from the Pacific coast region, our carry-over will presumably have been reduced from a level of 386,000,000 bushels as of July 1, 1933, to about 240,000,000 bushels as of July 1, 1934. Such a quantity would be more than 100,000,000 bushels in excess of the average carry-over prior to 1929. Furthermore, if abandonment and yields should be average, the new crop may be expected to exceed domestic utilization even if there is an acreage reduction of 15 percent.

The United States area of wheat sown, not including the quantity reseeded or sown for hay, averaged 64,018,000 acres for the 3 years, 1930–32, and is estimated at 63,134,000 acres for the 1933 crop. If there is a uniformly distributed 15 percent reduction of acreage from the 3-year average and if we should have average abandonment and yields in 1934, the total crop for that year would amount to about 681,000,000 bushels. Such a crop would be about 80,000,000 bushels in excess of probable domestic utilization if feeding is small.

Consequently, it is to be expected that we shall export a considerable quantity of wheat during the 1934–35 crop year. Unless some method of subsidizing exports should be used in the 1934–35 season, this would indicate that Chicago prices will have to be considerably below Liverpool during most, if not all, of that season, compared with an average of 20 cents above Liverpool during the period July–October of this season. There is, of course, a remote possibility that a short crop again next year will prevent an export surplus, or a further possibility that the pressure of the surplus will be relieved by other unusual circumstances.

Just what the composition of the United States carry-over of wheat will be as of July 1, 1934, is highly uncertain at this early date. It appears probable, however, that what may be termed the surplus carry-over—that is, the carry-over in excess of the average for the years 1920 to 1928—will be largely of hard winter wheat. This will presumably amount to somewhat less than 100,000,000 bushels, and there seems likely to be a surplus carry-over of white wheat of about 20,000,000 bushels. Present indications are that there will be very little surplus carry-over of the other classes of wheat.

It is not at all probable that yields will be average throughout the wheat area in 1934, but as an indication of what may be expected to be the result over a period of years, in case there is a 15 percent acreage reduction in the wheat area, it is significant to note how much wheat of the various classes would be produced. If there should be a 15 percent acreage reduction evenly distributed over the country, average abandonment and average yields would result in the following productions of the various classes of wheat: Hard red winter, 287,000,000 bushels; soft red winter, 130,000,000; hard red spring, 151,000,000; durum, 45,000,000; white, 68,000,000; and total of 681,000,000 bushels.

The probable utilization of these classes of wheat is difficult to arrive at because of the ease with which a considerable quantity of one class of wheat



may be substituted for another. It seems probable, however, that if supplies are sufficient to warrant, about 150,000,000 bushels of hard red spring wheat are likely to be used yearly and 175,000,000 bushels of soft red winter. In such case there would presumably be a consumption of about 200,000,000 bushels of hard red winter. If the supplies of hard red spring and soft red winter are not sufficient to warrant the amount of utilization indicated above, hard red winter would be used in correspondingly greater amount. About 45,000,000 bushels of white wheat and 30,000,000 bushels of durum wheat are commonly utilized. From this it may be seen that with a 15 percent acreage reduction, the United States would normally have a small surplus for export of hard red winter and white wheats. It should be borne in mind that the above figures of utilization represent what may be expected in years when feeding is at a minimum, for they total only 600,000,000 bushels. On the average, a somewhat larger quantity of wheat would be used and in some years, when feeding is heavy, utilization may greatly exceed this quantity. It is not to be expected, however, that large quantities of wheat will be fed except in years when there is a shortage of feed grains or when the price of wheat is extremely low.

## FLAX

### SUPPLIES

Domestic flax supplies for the 1933-34 season are much below prospective requirements as a result of record low yields and a reduced acreage. Demand for flaxseed and flaxseed products during the 1934-35 season is expected to be slightly improved over the low level of 1933-34. An acreage 50 percent larger than the 1,925,000 acres seeded in 1933, with an average yield per acre, may be expected to produce about as much seed as can be disposed of without losing the benefits provided by a 65-cent per bushel tariff.

The October 1 estimate of the United States crop was 7,371,000 bushels compared with 11,787,000 bushels in 1932 and 20,011,000 bushels, the average outturn of the period, 1926-30. Production in Canada is estimated at 756,000 bushels as compared with 2,446,000 bushels in 1932. The United States crop is the smallest since 1919, but the Canadian crop is the smallest on record for the years for which official data are available. Although the smaller acreage seeded in both the United States and Canada was a factor in reducing the size of the crop, low yields resulting from dry weather and grasshoppers were also important influences. The acreage was as large or larger than in 1932 in Minnesota, Iowa, and Missouri, but was sharply reduced in other States.

The 1933 world flaxseed acreage was not greatly different from that of the 1932 acreage, but a smaller 1933 production is indicated. The total acreage of 14 countries reporting to October 15 was 19,760,000 acres compared with 19,499,000 acres in the same countries in 1932. The estimated world acreage in 1932 was 20,800,000 acres. Yields in countries for which information is available are generally below last year and indicate a 1933-34 crop smaller than the 125,500,000-bushel crop harvested in 1932-33. Russia reduced its flax area from 7,781,000 acres in 1932 to 7,082,000 acres in 1933. Dry weather and the smallest sown acreage since 1925 indicate an outturn in Argentina close to the 52,304,000 bushels of last season. The Indian crop harvested last March and April of about 16,120,000 bushels was slightly smaller than that of the previous season. Marked decreases have occurred in many of the smaller producing countries.

The United States commercial supply of flaxseed, available for crushing October 1, 1933, was 8,000,000 bushels. This estimate is based on factory, warehouse, and market stocks, October 1, plus the 1933 crop as indicated by the October 1 estimate, but minus an estimated seed requirement of 1,400,000 bushels for the new crop and the 1933-34 new-crop marketings prior to October 1. Data for the same positions a year ago indicated a supply of 10,600,000 bushels, and 2 years ago of 10,900,000 bushels.

Since the 1933-34 supply is smaller than prospective requirements for the season it will be necessary to continue importing seed for crushing from foreign countries. The extent of imports during the last half of the 1933-34 season will be influenced by the acreage seeded and the condition of the 1934 crop. Assuming crushings during the 1933-34 season, beginning October 1, somewhat larger than in the 1932-33 season, and assuming no change in total stocks at the close of the season compared with those at the first of the season, about 13,000,000 bushels may be required to supplement domestic supplies. Crushings during

the 1932-33 season (Oct. 1, 1932-Sept. 30, 1933) totaled 19,700,000 bushels, compared with 19,800,000 bushels in 1931-32 season and a 5-season (1926-27 to 1930-31) average of 34,800,000 bushels.

#### DEMAND

Domestic demand for flaxseed and flaxseed products was low during the first half of the 1932-33 season, but improved somewhat in the last half. Depreciation of United States money in terms of foreign currencies, some increase in building activity, the general upturn in commodity and speculative markets and the short domestic crop strengthened the flaxseed situation in the summer and early fall months of 1933. As a result, the monthly average price of No. 1 flaxseed at Minneapolis, which had fluctuated between \$1.06 and \$1.13 a bushel from September 1932 into May 1933 rose sharply to \$1.88 a bushel in August and September of the present year. Demand for oil and meal improved and prices of these products made greater gains than the price of flax.

Construction contracts awarded have remained generally under the number a year ago although the improvement that occurred in the summer months was better than seasonal. Some improvement in building and business activity from the present level, which may enlarge the outlet for linseed oil, is anticipated. Any increase in pay rolls as the result of a stronger business situation will provide additional funds for repairs and alterations. Short crops of feed grains together with a supply of cottonseed no larger than that of a year ago and the small domestic supplies of flax will tend to maintain prices of linseed meal above those of competing feeds. Farm income for 1933-34, which may be considered as a measure of farmers' ability to buy feedstuffs, is estimated to be larger than a year ago by 24 percent. Returns from dairy production, which are especially important in determining the farm demand for linseed meal, were reduced in the summer and fall of 1933, but some slight improvement is expected in 1934.

The acreage sown to flaxseed in the United States has declined sharply during the last 3 years and the 1933 acreage of 1,925,000 acres was the smallest since 1922. If the present price is maintained and if the weather at seeding time is favorable, however, a substantial increase in acreage may be expected in 1934. The seed situation may have a deterrent effect on acreage expansion in areas in which there is a shortage of locally grown seed and in which farm incomes in 1933 were reduced to extremely low levels as the result of drought. If the 1934 production of flaxseed should equal or exceed the domestic requirements, the price advantage afforded by the tariff would be lost and any surplus would enter into direct competition with foreign-produced seed.

#### COTTON

Present indications are that, although in regard to American cotton the 1933 crop will be considerably below world consumption in 1933-34 and the world carry-over at the end of this season will be somewhat further reduced, the total supply will still be very large, while of cottons of all kinds the supply in the 1933-34 season will be slightly larger than in either of the 2 previous years. Without the cotton-adjustment program, however, the domestic crop would probably have been the second largest in history and far in excess of world consumption of American cotton this year. The increase in the supply of foreign cotton is accounted for both by an increase in production and by a larger carry-over. Nevertheless, the increased production which is occurring in many of the foreign countries this year represents in most cases a return to more normal production after 1 or 2 years of reduced crops.

The 40,800,000 acres planted to cotton in the United States in 1933 represented an increase of 11.6 percent over that of the previous year, but the removal of about 10,400,000 acres by the Agricultural Adjustment Administration leaves an indicated area for harvest 16 percent less than that of 1932, and the smallest since 1921. Without the 1934 adjustment program, the improved returns from cotton, continued abundant supplies of labor, and other factors, would probably lead to further increases in acreage planted to cotton in 1934. The adjustment program calls for an area in 1934 of only 25,000,000 acres, which, with yields equal to the average for the last 10 years, would give a crop of around 8,800,000 bales. On the basis of 25,000,000 acres, yields would have to be 23 pounds per acre larger than any year on record and 79 pounds above the average of the last 10 years for the 1934 crop to equal the October estimate of 12,900,000 bales for the 1933 crop.



World consumption of all cotton in 1932-33 increased about 2,000,000 bales over that of the previous season and was the highest for 3 years. The increase in the consumption of American was almost as great as the total increase for all growths, the increased consumption of sundries being largely offset by a marked decline in Indian and a slight decline in Egyptian. World consumption of American cotton in 1932-33 exceeded domestic production by 1,200,000 bales, was the largest consumption since 1928-29, and was 30 percent greater than the low level of consumption in 1930-31. Cotton consumption in the United States during last season was the largest for 4 years. If employment and pay rolls in other industries should improve still further during the coming months and if retail prices of cotton goods are not increased over the prevailing higher levels, domestic cotton consumption in 1933-34 might again increase.

In Europe, cotton consumption during August, September, and October was considerably above that of a year earlier which, with the improving conditions of general business, indicates that the 1933-34 consumption in Europe may equal or possibly somewhat exceed that of 1932-33. However, European mill consumption in 1932-33 was the largest for 3 years and in some sections of the Continent stocks of cotton goods have increased somewhat, the output during the summer months somewhat exceeding movement into consumption with a corresponding rise in stocks of textile products.

In China, the indications in October are that total cotton consumption in 1933-34 may be somewhat smaller than in the previous season, and in addition considerably smaller proportions of American cotton are being used. In Japan, however, cotton interests have agreed as a protest against the higher Indian tariff on non-British goods not to buy Indian cotton. This policy, if continued, will substantially increase the proportion of American cotton used.

In February 1933 cotton prices in domestic markets averaged less than 6 cents per pound, but with the improvement in business, and expectation of inflation, cotton prices advanced to above 9 cents before the end of May. In June and July the marked improvement in the textile industry as well as in general business resulted in an additional increase of 2½ cents per pound and by mid-July prices reached 11½ cents, the highest level recorded for almost 3 years. A considerable part of this marked advance was lost by mid-August, with prices slightly below 8½ cents, but in late October prices were around 9½ cents, which was more than 3 cents above those of a year earlier.

## SUPPLY

### ALL COTTON

The prospects in late October are that the world supply of all cotton in 1933-34 will be even larger than in either of the two previous seasons when the total supplies were equivalent to about 41,000,000 bales of approximately 478 pounds. Although the supply of American in 1933-34 will probably be 1,500,000 bales less than that of 1932-33, the indications are that this decrease will be more than offset by the increase in the 1933-34 crop in foreign countries and the somewhat larger world carry-over of foreign cotton.

### AMERICAN COTTON

Present indications are that the world supply of American cotton for the season 1933-34 will be about 24,500,000 bales. This supply is about 1,500,000 bales less than the extremely large supplies of about 26,000,000 bales for each of the two previous seasons, but is still about 6,000,000 bales larger than the 10-year average supply of 18,500,000 bales for the period 1921-22 to 1930-31. Without the adjustment program, the 1933-34 supply would probably have been around 28,800,000 bales, or about 2,800,000 bales larger than the record supplies of the two previous seasons.

The world supply of American cotton for the season 1933-34 is made up of a carry-over on August 1 estimated at 11,600,000 bales and the 1933 crop, which on October 1 was estimated at 12,885,000 bales. This carry-over of 11,600,000 bales is nearly 1,400,000 bales less than the peak carry-over of about 13,000,000 bales in 1932, but is still much larger than that for any year prior to 1932. It is still more than twice as large as the average for the 10-year period, 1922-31, and continues to exert a depressing influence on cotton prices. However, present indications are that the world carry-over of American in 1934 will be further reduced.

The 1933 domestic crop, estimated at almost 12,900,000 bales, is only about 100,000 bales less than the 1932 crop, but is 4,200,000 bales less than the 17,100,000-bale crop in 1931, which was the second largest crop on record. Except for the reduction in production, estimated at about 4,300,000 bales, brought about by the adjustment program, the 1933 crop would probably have been the second largest crop thus far produced, exceeding that of 1931.

The indicated area for harvest in 1933 is about 30,000,000 acres, 10,400,000 acres having been removed from production under the cotton-adjustment program, and there being abandonment estimated at about 400,000 acres additional. The 1933 acreage for harvest is approximately 5,900,000 acres, or 16 percent less than that of 1932 and about 25 percent less than that of the 5-year period, 1928-32. Weather conditions during the growing season were very favorable and bollweevil damage was relatively light, resulting in unusually large yields. The October estimated yield of 205.3 pounds per acre for the 1933 crop is about 18 percent above that for 1932, 23 percent above the 10-year average, and the largest since 1914, with the exception of 1931.

The area planted to cotton in the United States in 1933 was estimated at 40,800,000 acres or an increase of 11.6 percent over that of the previous year. Although this year's planted acreage was 4,300,000 acres larger than in 1932 it was slightly below the average of the last 5 years. Prior to 1933 the area planted to cotton in the United States had been reduced for three successive years and in 1932 was 18 percent below the 1929 acreage. The increase in the acreage planted in 1933 may be largely accounted for by the unsatisfactory returns from other crops, the large supply of available labor, and the fact that rather large supplies of food and feed products were on hand, along with the increase in cotton prices which occurred around planting time.

Present prospects are that the supply of American cotton in 1934-35 will be materially less than that of 1933-34. If world consumption this season equals or exceeds that of 1932-33, as is indicated at present, the world carry-over on August 1, 1934, would be reduced to less than 10,500,000 bales. Furthermore, the program announced by the Agricultural Adjustment Administration calls for a restriction in the 1934 cotton crop to 25,000,000 acres, which, if yields should be equal to the average of the last 10 years, would give a crop of around 8,800,000 bales. This would give a supply for the 1934-35 season of less than 20,000,000 bales compared with the 1933-34 indicated supply of 24,500,000 bales, a 26,000,000-bale supply for the 1931-32 and the 1932-33 seasons, and a 10-year average of approximately 18,500,000 bales. With the 1934 crop restricted to 25,000,000 acres, the 1934 crop would probably still be materially less than that of 1933, even if the more productive soils are utilized, the crop is more intensively cultivated, and larger quantities of fertilizers are applied, resulting in yields per acre considerably above the 1922-31 average. For the production from 25,000,000 acres to equal the October estimate of the 1933 crop, average yield would have to be 79 pounds or 47 percent above the 167 pounds average of the last 10 years, 41 pounds per acre above the high yields indicated for 1933, and 23 pounds above the extremely high yields of 1898-99. Without acreage-control measures the improved returns from cotton, an abundant labor supply, and somewhat improved credit conditions might easily stimulate the planting of an acreage in 1934 in excess of the 40,800,000 acres planted in 1933.

#### FOREIGN COTTON

October estimates of total foreign production in 1933-34 are only tentative but they indicate an increase equivalent to about 1,500,000 bales of 478 pounds, or about 14 percent over the 1932-33 production. The prospective crop is larger also than the average of the previous 5 years by 1,000,000 bales or 8 percent. A material part of the increase in the prospective 1933-34 foreign production represents a return to more normal production after 1 or 2 years of small crops. This is particularly true in Egypt, India, Brazil, and Mexico. The world carry-over of foreign cotton on August 1, 1933, as indicated by stocks reported at specified locations, was about 450,000 bales larger than a year earlier, although it was smaller than for any other year since 1927. The indicated supply of foreign-grown cotton in 1933-34, therefore, is about 1,950,000 bales larger than in 1932-33 and 1,000,000 bales larger than the preceding 5-year average.

The Indian crop is harvested considerably later than the American crop and the first official production estimate will not be released until December.



Plantings up to October 1 were estimated at 7 percent above those of a year earlier. In October the Bombay cotton trade estimated that the 1933-34 Indian crop would be about 14 percent above that of 1932-33. The 1932-33 crop in India was estimated at the equivalent of 3,800,000 bales of 478 pounds, which was about 400,000 bales larger than the previous crop. World consumption of Indian cotton again declined in 1932-33, and the world carry-over on August 1, 1933, showed an increase over the previous year of about 700,000 bales. Should the 1933-34 crop be as large as is now indicated, the supply for this season will be about 1,100,000 bales larger than the small supply of the previous season.

The 1933-34 Egyptian crop was estimated in October at slightly more than the equivalent of 1,600,000 bales of 478 pounds. This is 600,000 bales or about 63 percent larger than the 1932-33 crop and considerably larger than the 1931-32 crop, but somewhat less than the crops of 1930-31 and 1929-30. Both the 1931-32 and 1932-33 crops were unusually small, however, as a result of reduced acreage brought about by low cotton prices and by acreage-restriction measures. The carry-over of Egyptian cotton on August 1, 1933, was about 400,000 bales smaller than a year earlier and was the smallest since 1929. The total supply of Egyptian cotton indicated for the season 1933-34 is about 270,000 bales larger than for 1932-33, but is smaller than for any other season since 1928-29.

The revision of the Egyptian acreage-restriction decree, together with higher prices for cotton and unsatisfactory returns for other crops, largely account for the 65-percent increase in acreage over that for the preceding year. However, the Egyptian cotton acreage in 1933-34 was 13 percent less than in 1930-31. From a long-time viewpoint an important phase of Egyptian cotton production is the gradually increasing proportions of the shorter staple and higher yielding varieties. This change will not only tend to increase production, but will result in a larger proportion of the Egyptian crop that will compete directly with long-staple upland cotton produced in the United States.

The October indications were that the 1933-34 Chinese cotton crop would be equivalent to approximately 2,600,000 bales of 478 pounds, and will be the largest in years. The indicated production is 15 percent larger than the 1932-33 crop and 45 percent larger than in 1931-32. The carry-over of Chinese cotton at mills and at port warehouses was larger in 1933 than a year earlier, therefore, the supply promises to be unusually large. During 1932-33 mill consumption of Chinese cotton in China was the largest in the history of the industry and only a small quantity was exported. So far this season, however, the cotton mills in China have been operating at somewhat lower rates than during the previous season.

The first official estimate of the crop in northern Brazil, which is ordinarily about 70 percent of the total Brazilian crop, indicated an increase of about 250,000 bales of 478 pounds over the short crop of the previous year, or a crop slightly above the 5-year average. The Mexican crop is estimated at more than 100,000 bales larger than the extremely small crop of 1932-33 and a little above the average of the last 5 years. The Russian acreage is reported to be about 5 percent less than in 1932-33, and difficulties in connection with irrigation and cultivation in many sections point to the probability of lower yields per acre. The 1932-33 production in Brazil amounted to 408,000 bales and in Mexico, 95,000 bales; the average for the preceding 5 years amounted to 530,000 bales in Brazil and to about 220,000 bales in Mexico. Little is known as yet regarding the carry-over of these growths or the crop prospects in other foreign cotton-producing countries.

If prices of cotton in foreign countries increase, this would probably tend to increase cotton acreage abroad. However, a rise in the price of competing crops in those countries and the fact that many foreign cotton producers are not as responsive to price changes as are producers in the United States would be offsetting factors which may tend to hold down the increase during the next year or two.

## CONSUMPTION

### WORLD

The total world mill consumption of all growths in the 1932-33 season was reported at 24,332,000 running bales. This was an increase of 2,013,000 bales or 9 percent over that of 1931-32; it was the highest since 1929-30 and was slightly above the average for the last 10 years. The increase in consumption of

American cotton, which amounted to 1,851,000 bales, was almost equivalent to the increase in the total consumption of all growths. Although consumption of sundries cotton increased 794,000 bales over the previous season, this gain was largely offset by the decline of 588,000 bales in the consumption of Indian and 44,000 bales in Egyptian.

World consumption of American cotton continued to increase and was placed at 14,167,000 running bales in 1932-33, which was an increase of 3,259,000 bales or 30 percent above the low level reached in 1930-31, and was the largest since 1928-29, when world consumption was reported at 15,076,000 bales.

About 70 percent of the increase in the total consumption of American in 1932-33 over the previous year may be accounted for by the increase which occurred in the United States. Europe also used considerably more American cotton in 1932-33 than in the previous season because of a larger total consumption and because of the use of larger proportions of American cotton. There was an increase in Japan's consumption of American cotton about equal to the decline that occurred in China and India, resulting in little net change in the quantity of American cotton consumed in the Orient in 1932-33 as compared with the previous season. During the 1932-33 season American cotton represented about 62 percent of the total world consumption. In 1930-31 the proportion of American to the total was 52 percent, and the average for the last 10 years was 59 percent.

World mill consumption of Indian cotton in 1932-33 amounted to 4,200,000 running bales of approximately 400 pounds compared with almost 4,800,000 bales in 1931-32 and an average during the last 10 years of 5,200,000 bales. The 1932-33 consumption of Indian cotton was the smallest since records became available in 1920-21. The greatest decline in the 1932-33 consumption of Indian occurred in China, where less than 171,000 bales were consumed compared with a 10-year average of 408,000 bales. Many European countries also consumed less Indian in 1932-33 than in the previous season, and in Japan consumption decreased slightly.

Total consumption of Egyptian cotton in 1932-33 amounted to 936,000 running bales of approximately 750 pounds, which was 44,000 bales less than the previous season and only slightly below the average of the last 10 years. The decrease that has occurred in the United States consumption of Egyptian during the last 3 years has been largely offset by increases in Japan, China, and India. The 5,029,000 bales of sundries cotton (all cotton other than American, Indian, and Egyptian) consumed in 1932-33 was 19 percent larger than in the previous season and only 3 percent below the peak consumption of 1929-30. The heavy consumption of Chinese cotton in China almost entirely accounted for the total increase in sundries growths.

Reports indicate that world consumption of American cotton during August and September 1933 was at levels considerably above those of a year earlier. This and the improvements in general business conditions in the United States and in foreign countries are favorable to an increase in cotton consumption in 1933-34 as compared with 1932-33. But American cotton will perhaps meet greater competition from foreign cotton in 1933-34 than during the previous season as a result of larger supplies of foreign cotton and smaller supplies of American.

#### UNITED STATES

Mill consumption of cotton in the United States in 1932-33 amounted to 6,136,000 running bales, which was 1,270,000 bales or about 26 percent greater than in 1931-32 and was greater than for any other season since 1928-29. Although the rate of consumption during the first half of the 1932-33 season was somewhat greater than a year earlier and was considerably greater than during the last half of the preceding season, the marked increases took place after February 1933. Domestic mill consumption increased at an unusually rapid rate from April through June, and in June the rate of consumption was 5 percent greater than the high levels reached in 1926-27, and was also greater than that for any other month for which records are available. Since June and July, consumption in the United States has decreased materially but in September was still somewhat above that of a year earlier and was considerably above September 1930 and 1931.

The phenomenal increases in domestic mill consumption of cotton from April to July 1933 were associated with marked advances in prices of raw materials along with the development of a general inflationary psychology and deprecia-



tion of the dollar in terms of foreign exchange, material improvements in business sentiment and in industrial activity in the United States and in foreign countries, and prospects for increased manufacturing costs. In conjunction with these developments were phenomenal increases in demand for textile products to build up inventories or to replenish depleted stocks, in order to take full advantage of the depreciation in the value of the dollar and of rising prices. This speculative buying and the building up of inventories appear to have occurred particularly in channels of distribution. As a result, sales of textile products increased, and by June an almost unprecedented volume of unfilled orders had accumulated. These developments plus the fact that many purchasers were asking for quick deliveries no doubt largely explain why mill activity was increased in June and July to the highest levels on record.

Material decreases in textile sales and in unfilled orders of cotton mills since May and June were followed by marked declines in domestic mill consumption since June and July. In June and July, domestic mill consumption was at an annual rate of 7,800,000 bales, which was considerably higher than consumer purchasing power could sustain. The largest domestic consumption previously recorded was only 7,190,000 bales which occurred in 1926-27 when pay rolls, employment, farm income, and general business activity were at relatively high levels.

Whether or not domestic consumption in 1933-34 is larger than in 1932-33 will depend largely upon further improvements in general business conditions, along with larger pay rolls and increased farmers' income, so that consumers will be able to absorb increased quantities of cotton goods at the prevailing higher prices. Retail prices of cotton textiles by October had apparently increased about 45 percent over the low levels of March and were about one third higher than the prices prevailing in 1932-33. They were the highest since about the middle of 1931 and were apparently still rising slightly.

#### EUROPE

Total consumption of all cotton in Europe as a whole showed a slight increase during 1932-33, the 8,900,000 running bales consumed comparing with 8,700,000 bales in 1931-32, 8,800,000 bales in 1930-31, and 10,350,000 bales in 1929-30. In 1931-32 European consumption of American cotton showed an increase of about 450,000 bales over the previous season and in 1932-33 there was an additional increase of about 550,000 bales, of which 490,000 was on the Continent. Europe's consumption of Indian cotton during last season again declined, making the third successive season showing a decline, and was the smallest consumption for many years. Consumption of Egyptian and sundries growths during 1932-33 both declined slightly.

Great Britain's total cotton consumption in 1932-33 was slightly less than in the previous season, but consumption of American increased slightly, the decline in the consumption of Indian and sundries growths accounting for the decrease in the total.

The steady decline in continental mill consumption of raw cotton since the record season of 1927-28 finally came to an end in 1932-33 when consumption rose to 7 percent above the figures for the previous season. German mills were more active than in any season since 1929-30 and the proportion of American cotton consumed increased to about 76 percent as compared with 68 percent in 1930-31, while at the same time the proportion of Indian and sundries growths decreased. Consumption of American cotton in France in 1932-33 was the largest since 1928-29. The Italian mills were also more active on the average during 1932-33 than in any season since 1929-30, the quantity of American cotton used being the largest since 1928-29, although a further decline occurred in the quantity of Indian cotton consumed.

With the rate of cotton consumption during the first 3 months of this season considerably above a year earlier and with general conditions in Europe improved, the present prospects are that the higher rate of raw-cotton consumption which prevailed in Europe in 1932-33 will be maintained during the current season 1933-34, particularly on the Continent. There is even a possibility of some further increase in consumption in the second half of the calendar year 1934, though these expectations depend upon the realization of further

improvement in economic conditions in the world at large which will reenforce European wholesale demand for cotton manufacturers—and hence raw cotton—by enlarged consumer buying.

On the other hand, there are certain factors which, without further improvement in general conditions in Europe, may tend to reduce consumption in 1933-34. Consumer demand for cotton textiles thus far in 1933 has lagged behind manufacturing operations in some sections of the Continent, notably in Germany, with resultant increases in stocks of cotton goods. This increase is not alarming because stocks of finished and semimanufactured goods in western and southern Europe have remained moderate, and the Continent, as a whole, is probably not overstocked. Nevertheless, it is clear that a fair share of the 1932-33 consumption of raw cotton by the Continent, especially that during the last half of the season, did not represent covering of current needs of the ultimate consumer but rather manufacture for replenishing stocks. Some possibility of at least a temporary set-back or slackening in cotton-mill activity from the increased rate of last summer, therefore, doubtless exists in places and might become an actuality if further improvement in the general business situation does not occur.

#### THE ORIENT

Cotton consumption in Japan continued very high during 1932-33, the 2,900,000 running bales of all cotton consumed being only 100,000 bales less than that of the record year 1928-29. This high level of consumption was made possible by the new high level of exports of cotton cloth. The great depreciation in the exchange rate of the Japanese currency no doubt explains in part why exports reached these levels despite the continuation of the depression throughout the world, and a higher tariff on non-British goods in India which was Japan's largest foreign market during this period.

A still higher tariff rate on non-British goods entering India became effective in June 1933. The extent to which the recent decline in exports of cloth from Japan was due to the change in the Indian tariff is not apparent but that the Japanese spinners consider it of much importance, is shown by their agreement to discontinue buying Indian cotton. The higher tariff in India and the agreement on the part of Japanese cotton interests not to buy Indian cotton will probably have little effect on the total quantity of American cotton consumed in foreign countries. Any increase in consumption of American cotton in Japan, as a result of Japan's using American instead of Indian, and in Great Britain because of possible increases in exports of piece goods to India, will probably be offset to a large extent by increased competition from Indian cotton in other countries.

It hardly seems probable that mill activity in Japan during 1933-34 will continue at the levels of 1932-33, but curtailed use of Indian cotton would result in still larger proportions of American cotton being used in 1933-34 than in 1932-33. If this should happen, Japan's consumption of American cotton in the present season might equal or exceed that of 1932-33 when almost 1,800,000 running bales were consumed. For the 5 years ended 1930-31 the average consumption of American cotton in Japan was about 1,000,000 bales, even though total consumption averaged almost as high as in 1932-33. During the last season American cotton represented about 66 percent of the total cotton consumed in Japan, whereas during the 10 years ended 1931-32 American cotton averaged 40 percent of the total.

Mill activity in China has declined considerably during recent months and the proportion of American cotton being used has also declined. Activity in 1932-33 as a whole, however, was higher than for any other year. With a considerably larger crop of Chinese cotton practically assured, with larger stocks of native-grown cotton on hand at the beginning of the season and with prospects for smaller total consumption, it seems fairly certain that notwithstanding the loan to China by the Reconstruction Finance Corporation for the purchase of American cotton, the consumption of American in China during 1933-34 will be less than in either of the two previous seasons.

In 1932-33 the Chinese Millowners' Association reported the total consumption of all cotton at almost 2,600,000 bales of approximately 500 pounds, compared with a previous high consumption of a little over 2,300,000 bales. The quantity of American cotton consumed was reported at about 750,000 bales in 1932-33, compared with almost 900,000 bales in 1931-32 and a 5-year average, 1926-27 to 1930-31 of approximately 300,000 bales.



With prospects for a somewhat larger Indian crop this year and with mill stocks of Indian cotton in India at the beginning of the season the largest since 1921, it is expected that consumption of American cotton in India during 1933-34 will be the smallest since 1930-31. In 1932-33, mills in India used 135,000 bales of American cotton, in 1931-32 about 190,000 bales, and in 1930-31, only 50,000 bales.

#### PRICES

Cotton prices trended sharply downward from June 1928 to June 1932. The average price in the 10 designated markets for Middling  $\frac{7}{8}$ -inch cotton averaged about 20 $\frac{3}{4}$  cents per pound in June 1928 and only about 5 cents in June 1932, when prices were the lowest since 1898. From the low level of June 1932, cotton prices advanced sharply and in late August of that year reached a peak of 8.8 cents. Prices then again declined, and in December, January, and February averaged around 6 cents.

During the banking holidays in March 1933, with the anticipation of inflation and the expectation of improvement in business conditions, cotton prices advanced more than 1 cent per pound. Prices reacted somewhat in late March, but advanced markedly during April, May, June, and July, reaching a peak of 11.51 cents per pound on July 18. Factors contributing to the price advance included the depreciation in the exchange value of the dollar, the adjustment program, increased mill activity both in the United States and abroad, and the marked improvement in business sentiment.

During the latter part of July cotton prices declined more than 1 $\frac{1}{2}$  cents per pound, then recovered about one half cent of the loss, but in August they again began to decline perhaps partly because of the realization that cotton yields per acre in the United States were again going to be unusually large. On September 9 the 10 spot markets averaged only 8.34 cents, but advanced to the 10-cent level by September 19, then declined three fourths cent the following 2 days. From that date to October 25 the average price in the 10 markets fluctuated between 8 $\frac{1}{2}$  and 9 $\frac{3}{4}$  cents per pound. In October 1932 prices in the 10 markets averaged 6.37 cents.

Advances in cotton prices from April to July 1933 in terms of gold were considerably less than in terms of currency. The highest weekly average price in terms of gold was 8.06 cents per pound for the week ended July 1, while the highest weekly average in terms of currency was 11.04 cents per pound for the week ended July 15. Since July, cotton prices in terms of gold have also declined and for the week ended October 14 they averaged 6.08 cents which is slightly lower than the price for the week ended April 15—the last week before gold payments were suspended—and only slightly higher than during February.

In other words, customers in foreign countries where currencies have not depreciated recently were able in October to buy American cotton at prices not appreciably higher to them than the low prices that prevailed in February and at somewhat lower prices than they paid in October 1932. In countries in which depreciation has occurred but not to the extent of the dollar's depreciation, prices are proportionately advantageous. The relatively low price of American cotton in foreign countries along with improvement in business conditions largely accounts for the high rate of foreign consumption of American cotton during August and September 1933.

Prices of American cotton at Liverpool during September and October were higher relative to prices of Indian cotton, its chief competitor, than for more than 2 years and were about the same relatively as on the average during the 10 years, 1922-23 to 1931-32.

#### STAPLE SITUATION

Premiums in cents per pound for staples longer than seven eighths inch, after widening somewhat following the rise in cotton prices in August and September 1932, narrowed as prices declined in March 1933, then widened again following the advance during the spring, and by July and August 1933 were wider than at any other time since the early part of the season 1931-32, but with the exception of 1931-32 the average was still much narrower than any seasonal average since 1923-24. Premiums for lengths fifteen sixteenths inch to 1 $\frac{1}{8}$  inches, inclusive, continued to widen during August and September 1933, while premiums for staple 1 $\frac{1}{8}$  inches and longer declined somewhat in August and September. Discounts for  $\frac{1}{8}$ -inch cotton widened somewhat during the spring of 1933 but in July and August were slightly narrower than a year earlier.

When expressed as percentages of the Middling  $\frac{7}{8}$ -inch price, premiums for the longer staples narrowed somewhat with the increase in prices during the spring of 1933, but by August and September were in general on approximately the same levels as a year earlier; while discounts for  $\frac{1}{8}$ -inch cotton in July and August 1933, were considerably narrower than a year earlier.

The indicated domestic supply of American cotton (carry-over in the United States plus the 1933 crop) with staples seven eighths inch and shorter for the season 1933-34 is approximately 1,500,000 bales less than for a year earlier, about 3,000,000 bales less than in 1931-32, and considerably less than for any other season since records became available in 1928-29. (The distribution of the 1933 crop by staple lengths was arrived at by applying the percentage distribution by staple lengths for samples classed from the crop to October 19 to the estimated crop as of October 1. The distribution by staple lengths for cotton ginned prior to October has been fairly typical of that for the total crop each year during the last five seasons.) This indicated decrease is due to a smaller carry-over and to the indications of a smaller proportion of the shorter staples in the 1933 crop. The influence of this decrease in supply of these shorter staple lengths in the United States on prices is counterbalanced, to some extent at least, by a marked increase in supply of Indian cotton, most of which is seven eighths inch and shorter in staple. The increase in supply of Indian cotton in 1933-34 over that for the previous season is estimated in October at the equivalent of more than 1,000,000 bales of 478 pounds net weight. The relative price of Indian Fine Broach cotton to that of American Middling has decreased from almost 100 percent in January 1932 to around 80 percent in October 1933. The average during the 10-year period ended with 1929-30 was 86.1 percent.

The domestic supply of the medium staples (fifteen sixteenths inch to  $1\frac{1}{2}$  inches, inclusive) in 1933-34 will apparently be about equal to that of the previous year. The decrease in carry-over, amounting to about 473,000 bales, appears to be offset by an increase in the proportion of the medium staple lengths in the crop of 1933.

The domestic supply of American upland cotton with staples  $1\frac{1}{8}$  inches and longer for the season 1933-34 will apparently be somewhat larger than that for the 1932-33 season and considerably larger than for any other season since records became available in 1928-29. The slight decrease in carry-over on August 1, 1933, as compared with that of the previous year, was brought about by a decrease in the ginnings of these lengths from 844,000 bales in 1931 to 715,000 bales in 1932, and by an increase in disappearance (domestic consumption plus exports) from 467,000 bales in 1931-32 to 736,000 bales in 1932-33.

The carry-over of American-Egyptian cotton decreased from unusually high levels. It amounted to more than 16,500 bales in 1931 and in 1932, and to about 9,800 bales in 1933. This decrease was brought about by a decrease in production from about 30,000 bales in 1929 to 8,300 bales in 1932, along with an increase in consumption from 12,400 bales in 1931-32 to 17,600 bales in 1932-33. The monthly rate of consumption increased from 457 bales in June 1932 to 2,061 bales in November 1932, and then declined to 868 bales in September 1933, which was the lowest September consumption since 1930. The 1933 crop was estimated in October at 15,000 bales.

The increase in the world supply of Egyptian cotton, practically all of which is of the longer staples, for the season 1933-34 is estimated at the equivalent of 270,000 bales of 478 pounds net weight, or about 12 percent over the previous season. The spread between the prices of American Middling upland  $1\frac{1}{8}$ -inch cotton and of Egyptian Uppers Fully Good Fair during the last of September and October 1933 was somewhat narrower than at any other time since September 1932.

#### COTTONSEED

From 1927-28 to 1931-32 there was rather marked and almost continuous decline in cottonseed prices. In 1927-28 the weighted average United States farm price of cottonseed was \$35.94 per ton, which was 163 percent of pre-war average, 1909-10 to 1913-14, whereas in 1931-32 the farm price averaged \$9.52, which was only 43 percent of pre-war. In the summer of 1932, improvement in business sentiment and business activity, the speculative buying in anticipation of higher prices, and the indications that the new cotton crop was going to be much smaller than had been expected, prices of cotton and cottonseed advanced rather sharply. By the end of the calendar year, however,



prices were back almost to the same levels as during the previous July. In the spring of 1933 a strong speculative demand, a marked improvement in business conditions, and the depreciation in the value of the dollar resulted in another marked advance in cottonseed prices. In July the United States farm price of cottonseed was \$16.59 per ton, an advance of \$7.68 or 86 percent over February, and was 75 percent of the pre-war average. As a result of the marked advances during the first and last part of the season the weighted average farm price for the 1932-33 season was \$10.40 per ton compared with \$9.52 in 1931-32, or an advance of 9 percent. In August and September this season there was a rather marked decline in cottonseed prices, with the farm price averaging only \$12.11 in September.

Cottonseed prices tend to move somewhat in line with the price of cotton lint because of the close association between the supplies of each. But, because of differences in the demand for the two products and variations in the supply of competing products the prices of the two may at times even move in opposite directions. The price paid for cottonseed is determined primarily on the price received for crude cottonseed oil and to a smaller extent upon the price received from the cake or meal, hulls, and linters. During the 7 years ended 1930-31 the value of the crude oil has averaged about 53 percent of the total value of all crude products of cottonseed. The value of cake and meal ranked next, averaging about 33 percent of the total, linters averaged 9 percent, and hulls 5 percent. The prices received for cottonseed oil and the other products of cottonseed are materially influenced by the supply of competing commodities. The chief competitor of cottonseed oil is hog lard, but such vegetable oils as olive, peanut, coconut, palm kernel, sunflower, sesame, corn, and soybean also compete with cottonseed oil.

In 1931-32 the second largest domestic cotton crop in history resulted in large supplies of cottonseed and large quantities of cottonseed accumulated at crushing mills; stocks of cottonseed oil increased and before the end of the season were the largest for the corresponding period for 6 years. In addition, stocks of lard and vegetable oils accumulated and were about 40 percent larger around the end of 1931-32 than they were a year earlier. These large supplies of cottonseed oil, lard, and edible vegetable oils and the decline in consumer incomes and demand resulted in a marked decline in cottonseed oil and cottonseed prices. In May 1932 the average price of prime summer yellow cottonseed oil at New York was only 3.18 cents per pound, which was only 46 percent of the pre-war average, 43 percent of the 1930-31 average, and only 35 percent of the average for the 5 years ended 1930-31. The average for May was the lowest since January 1904, and with that exception since 1898. Prices of lard also declined greatly and in 1932 the average was the lowest for at least 30 years.

In the summer of 1932 with the improvement in business and the expectation of a very short domestic cotton crop, prices of cottonseed, cottonseed oil, and competing commodities advanced materially, but by the middle of the 1932-33 season were back to levels not greatly above the low level of the previous May. In April 1933, however, a strong speculative demand developed for lard, lard substitutes, cottonseed oil, and cottonseed. As a result, prices of cottonseed oil and cottonseed advanced sharply and in July were the highest for 2 years. Since then they have declined materially and in October were back at levels about equal to the average of 1932-33.

The trend of cottonseed oil and cottonseed prices during the coming months will depend upon the trend in consumer incomes and demand, as well as upon the supply of cottonseed, cottonseed products, and competing commodities. Stocks of cottonseed at mills at the beginning of the 1933-34 season were 26 percent smaller than a year earlier, but were about five times as large as the average of the previous 5 years. Stocks of crude and refined cottonseed oil in the United States on July 31 this year amounted to 725,000,000 pounds reduced to a refined basis compared with 656,000,000 pounds a year earlier and an average during the 5 years ended 1932 of 383,500,000 pounds. The October estimate of the 1933 domestic cotton crop was only 1 percent less than the 1932 crop, indicating little change in the domestic production of cottonseed. The indications are, however, that cotton production in foreign countries in 1933-34 will be materially above 1932-33, which will probably affect our exports of cottonseed products. A 25,000,000-acre domestic cotton crop in 1934 on the other hand would doubtless reduce the supply of cottonseed for the 1934-35 season.

Storage stocks of lard on September 1 this year totaled 224,000,000 pounds, which were 123,000,000 pounds or 122 percent larger than a year earlier, and were the largest in history. These large stocks, which a few months earlier were below average, were the result of the record summer slaughter supplies of hogs and of sharply restricted exports. The emergency pig-buying program of the Department of Agriculture which went into effect in August is expected to result in hog slaughter during the first half of 1934 about 15 percent less than in the like period of 1933, although all of this reduction may not be reflected in lard production.

Stocks of eight of the principal edible vegetable oils, excluding cottonseed oil, on June 30, 1933, amounted to 212,000,000 pounds, on a crude basis compared with 263,000,000 pounds a year earlier, 319,000,000 pounds at the end of June 1931, and were the smallest since 1928.

### FEED CROPS AND LIVESTOCK

The total supply of feed grains for the 1933-34 season is smaller than that for any other year since 1901, but with the exception of 1930, when supplies were just slightly smaller than in the present drought year. Since 1930 there has been some increase in the numbers of livestock on farms so that the quantity of feed available per animal is about 6 percent less than in 1930. Hay supplies for the coming season are below average, but are above those of 1930 and 1931. Farm prices of feed grains in October were considerably above those of the same time a year ago, and hay prices were about 15 percent higher, while livestock prices were only slightly above those of the same time last year. Thus feed prices are now relatively high in comparison with livestock prices. Should the present unfavorable feeding situation long continue it will tend to discourage the production of livestock for market in 1934. Prices of dairy products in October were slightly higher than in October last year, but conditions for feeding were much less favorable because of the higher prices of feed grains. The numbers of livestock on feed this fall are considerably below average and dairymen are feeding less grain to milch cows than a year ago.

The outlook for both feed-grain and livestock production in 1934 will depend to a large extent upon the activities of the Agricultural Adjustment Administration to control production. Present indications are that a program will soon be started to reduce both corn and hog production in 1934 in the principal producing areas. This will be in addition to the reduction of cotton, wheat, and tobacco production. No doubt there will be considerable reduction in the acreage of the crops included in these programs, but there will probably be some shifts in production of feed grains and livestock. In the Southern States and certain parts of the Wheat Belt there will be a tendency to increase food and feed crops for home use. The curtailment of corn and hog production will tend to increase the hay and pasture acreage in the Corn Belt States, thus stimulating summer dairying and beef production, especially the production of feeder cattle on the farms where feeding of beef cattle is important.

Because of the shortage of feed grains this year, the price ratios between feed grains and livestock and feed grains and livestock products are no longer so high as to stimulate further increases in livestock numbers and in some instances will probably result in decreases, in addition to decreases brought about by the production-control plan. It is probable that the acreage devoted to feed crops and the numbers of livestock produced will be smaller in 1934 than in 1933. However, should the yields of feed grains be more nearly normal in 1934, feed supplies will be larger than in 1933, when yields were unusually low, and feeding of livestock for market will be greater in the 1934-35 feeding season.

### THE FEED-SUPPLY SITUATION

The widespread drought during June and July this year greatly reduced the production of all feed crops. The production of oats in 1933 was less than 60 percent of the 1926-30 average production and was the smallest crop since 1894. Barley production was also about 60 percent of the 5-year average and corn production about 90 percent of average. The grain-sorghum crop, however, was greatly benefited by rains during August, and production for 1933 is estimated at about 15 percent above average. Because of large crops of feed grains in 1932, the carry-over of grains into the 1933 feeding season



was larger than usual, which will supplement the small production of feed grains this year. An offsetting factor, however, will be the shortage of wheat production this year. In 1930 and 1931, when feed-grain supplies were short, large quantities of wheat were fed. With the general shortage of wheat and relatively higher prices compared with feed grains, it is probable that the quantity of wheat fed this season will not be more than 20 or 25 percent as large as in 1930-31 or 1931-32, when 159,000,000 and 167,000,000 bushels, respectively, were fed to livestock. The improvements in pasture conditions over a large part of the heavy-feeding areas during the fall months has also been a factor in supplementing the short crop of feed grains.

The total tonnage of feed grains on farms (corn, oats, barley, and grain sorghums) including carry-over available at the beginning of the 1933-34 feeding season, was approximately 93,600,000 tons compared with 119,600,000 tons last year, 92,700,000 tons in the 1930-31 feeding season, and a 5-year (1926-30) average of 104,900,000 tons. Total hay supplies for the 1933-34 feeding season are about 87,000,000 tons compared with 90,000,000 tons in 1932, 81,000,000 tons in the short crop year 1931, and a 5-year (1926-30) average of 94,000,000 tons. In addition to the shortage of feed grains and hay this year, range conditions in the Mountain States on October 1 were about the lowest ever reported for the month during the last 11 years.

The supplies of by-products feeds for the fall and winter of 1933-34 are not likely to be greatly different from that of last season, though well below average. Supplies of wheat mill feeds will depend largely upon the millings of flour. Production of wheat mill feeds during August and September was about 100,000 tons smaller than during the same months last year. The total supplies of protein feeds from the usual sources will probably be slightly smaller during the coming year, because of the short crop of flaxseed. This may be offset by the reintroduction of brewers' grains which are high in protein and which will be further supplemented by increased production of distillers' grains. During the years 1915 to 1918 the production of these feeds exceeded 350,000 tons, but since the beginning of the prohibition period the production has been negligible. Wet-process grindings of corn from which gluten feed and meal are obtained have been relatively heavy in recent months, and it appears that production will continue at least average during the next few months. Alfalfa-meal production this season to date has been about 25 percent larger than during the corresponding period last season. Supplies of alfalfa hay are plentiful in the important meal-producing areas, and the output of meal will depend largely upon the relation between alfalfa-hay prices and bran prices.

#### LIVESTOCK NUMBERS AND FEEDING PROSPECTS

The number of grain-consuming livestock units to be fed on farms during the 1933-34 feeding season will not be greatly different from those on farms last season. Cattle numbers have increased and are now about 2,500,000 head larger than a year ago, but this has been offset by a slight reduction in the number of sheep and lambs on farms, a further decrease in the number of horses and mules, and a reduction in the number of hogs due to the slaughter of about 6,200,000 pigs under the emergency Federal hog-production control plan. The number of hay-consuming livestock units on farms is slightly larger than a year ago, as the increase in cattle has more than offset the reduction in the number of sheep, horses, and mules.

When the numbers of animals on farms are combined according to their normal feed consumption per unit, and are compared with the supplies of feed on farms, the quantity of feed available per animal unit for the 1933-34 season is seen to be the smallest for any time during the last 30 years. It is 6 percent smaller than in 1930-31 and 12.5 percent smaller than in 1931-32. This shortage will restrict the intensive feeding of livestock for market this winter. This is indicated by the smaller number of cattle and lambs purchased for feeding so far this season. The shipment of stocker and feeder cattle into feed lots from July 1 to October 1 was about 30 percent less than in the same months last year. Although this marked decline in comparison with a year ago is not expected to continue, the amount of cattle feeding done this year is expected to be considerably smaller than in the 1932-33 feeding season. The movement of lambs to feed lots this year has also been much below average and the number

of hogs to be fed has been reduced. The number of dairy cows on farms is now about 2 or 3 percent larger than a year ago, but the quantity of feed being fed per cow is somewhat less. The higher prices of feed in comparison with prices of dairy products are restricting the quantity of grain and other concentrates fed per head.

In the Western States range conditions are unusually poor and livestock is going into the winter in poor condition. Feed supplies in this area are only about average this year, and if heavy losses are to be avoided this winter large quantities of feed will have to be shipped into the area, or considerable numbers of livestock will have to be marketed. The large crop of grain sorghums in Texas, Oklahoma, Kansas, and Colorado will largely offset the short crop of other feed grains in this area. In most other areas feed supplies seem ample to carry livestock though the winter in view of the smaller amount of feeding that will probably be done.

#### COMMERCIAL AND EXPORT DEMAND FOR FEED GRAINS

The utilization of feed grains in industry during the 1933-34 season will probably be considerably larger than in recent years because of the relegalization of beer and the prospective repeal of the eighteenth amendment. Commercial utilization of corn from the 1934 crop will be stimulated by increased brewing and distilling and by some improvement in other industries. The decrease in the wet-process corn grindings from their 1928 record high level of 87,000,000 bushels to 62,000,000 bushels in 1932 reflects not only the decline in business activity but also the relatively large imports of foreign starches. Cornmeal production was also on a downward trend during this period. In the summer of 1933 the production of corn products increased sharply, so that wet-process grindings may reach a total of 72,000,000 bushels in 1933.

The number of operating breweries increased from 164 in 1932 to about 400 in 1933. The use of corn products in the manufacture of fermented liquors prior to the prohibition period was around 600,000,000 pounds annually, or the equivalent of about 15,000,000 bushels of corn. The production of corn products for use by breweries in both wet- and dry-process industries is expected to continue unusually heavy for some months while supplies of beer and alcoholic liquors are being accumulated for aging. In recent years the use of corn by the distilling industry has been negligible, but in the preprohibition period between 20,000,000 and 25,000,000 bushels of corn were used annually in the production of alcohol and other distilled spirits. From the standpoint of feed supplies, the increased use of corn by breweries, distilleries, and corn processors will be offset to some extent by increased production of corn byproduct feeds. However, such products as gluten feed, distillers' and brewers' grains, and hominy feed should supplement rather than compete with corn as a feed since the protein content in the byproducts is much greater than in corn.

Exports of corn during the 1933-34 season will be negligible, because of the relatively high prices in this country. The quantity of corn imported will depend largely upon the relative price of American and Argentine corn. Prices of corn at Buenos Aires for nearby delivery are now about 10 cents below the prices of corn at Chicago.

The industrial use of other feed grains, particularly barley, will also be increased materially by the expansion of brewing and distilling industries. In preprohibition days the consumption of barley by the distilling and brewing industries ranged from 55,000,000 to 60,000,000 bushels annually, whereas in recent years only about 10,000,000 bushels have been used.

The commercial utilization of oats is never an important factor in the total consumption of oats and is not likely to be greatly stimulated by the brewing or distilling industries. Some increase in the demand for oats for seed next spring is probable, however, because of the almost complete crop failure in many areas in which oats is one of the major crops.

#### PRICES OF FEED GRAINS

Prices of feed grains reached unusually low levels during the 1932-33 feeding season and in many areas prices were so low that they hardly paid the cost of marketing. From March to July, prices of feed grains advanced very rapidly and in many areas the advances from the low point reached last winter amounted to 300 to 400 percent. The sharp rise in prices was accompanied by unusually heavy marketings of grains and, with only a limited outlet, the



supplies of grains in the central markets reached record levels. This piling up of supplies eventually resulted in a sharp decline in prices and by October 15 the farm price of corn was only 70 percent, oats 71 percent, and barley 86 percent of the peak of prices reached last July. Prices are still very much above the low prices of last winter, but they are not unusually high in view of the marked reduction in the supply of feed grains this year. With a material increase in the commercial utilization of feed grains in prospect, higher prices for most feed grains seem probable as the large supplies in central markets are reduced and as the feeding season gets under way.

#### SOYBEAN PRODUCTION AND OUTLOOK

The production of soybeans has increased rapidly during recent years. In some areas the crop has become important both as feed and as a cash crop. Soybeans are fed as beans or hay to livestock, are grazed off, or are sold for crushing.

The acreage of soybeans in 1933 was 2 percent larger than in 1932, but with poor conditions, the crop production will probably be about 16 percent less than in 1932. Ordinarily about one fourth of the soybean crop is cut and threshed for grain, one sixth is grazed off, and about three fifths are cut for hay. Of the portion that is threshed for grain, about 90 percent is produced in Illinois, Indiana, Iowa, North Carolina, Missouri, and Ohio. The prices of soybeans and soybean oil practically doubled during the summer of 1933 and present prospects are that the acreage of soybeans threshed for grain was about 12 percent greater than in 1932.

During 1932 and the first quarter of 1933 prices for soybean products declined along with those for other vegetable oils and protein concentrates. Prices of soybeans in the United States in 1931 and 1932 were so low that soybeans were exported for the first time. Exports amounted to 2,000,000 bushels in 1931 and 2,500,000 bushels in 1932. The recent advance in prices, however, has placed the present crop on a domestic basis. In spite of the decline in demand for oils during the last few years, the quantity of soybeans crushed increased sharply until 1932 and during the year ended September 1932 totaled 141,749 tons. Crushings during the first three quarters of the 1932-33 crop year and mill stocks of beans on hand for the fourth quarter of the year indicate that total crushings from the 1932 crop will be about one third less than those from the 1931 crop.

The advance in the prices of soybean oil and meal during summer months reflected the increased activity of manufacturing industries that use these products, and the shortage of feed grain. The decline in feed-grain prices since July has been accompanied by a decline in the prices of soybean meal and consequently in prices of soybeans. The price of soybean products during the coming months will depend largely upon improvement in business activity in those industries that use soybean oil and upon the trend of prices of protein feeds other than soybean meal.

#### FEED GRAINS AND LIVESTOCK SITUATION BY REGIONS

In the North Atlantic States, the 1933 acreage of feed grains (corn, oats, and barley) was about the same as in recent years and production was only slightly less than the average of the last 5 years. Production in 1933 exceeded that in the drought year of 1930 but was considerably less than in 1931. Feed requirements during the next few months are expected to be about the same as during the corresponding period of recent years, depending largely upon the quality of grain fed to milk cows.

In the South Atlantic States, the acreage of feed grains (corn, oats, and barley) declined from the relatively high level of the last 2 years but was still somewhat above average. Production was also above average and above that of last year. Feed-grain production in the South Central States in 1933 was slightly below average but about one third greater than in the drought year 1930.

The numbers of livestock in the Southern States are somewhat greater than the average of recent years, so that the quantity of feed available per animal is less than usual. Feed-grain acreage for home use next year may be expected to increase with the prospective low cotton acreage under the cotton-acreage reduction program of the Agricultural Adjustment Administration.

Owing largely to unfavorable planting conditions, the acreage of feed grains in the East North Central States declined in 1933 and production was the lowest in many years. Livestock numbers are somewhat above average in this area, so that less-than-usual quantities of grain will be available for marketing.

In the West North Central States, also, 1933 production of feed grain was the lowest for many years. Although feed requirements in this area are expected to be below the average of recent years, the quantity of surplus feed available for sale still will be smaller than in any other recent year.

The East and West North Central States will be the principal area affected by the corn-and-hog production-control program. Both the corn acreage and the number of hogs produced in this area will probably be somewhat smaller in 1934 than in 1933, but the acreage devoted to hay and pasture will probably be increased.

The 1933 acreage of feed grains and hay in the Western States was maintained at a relatively high level but production was only about average. Feed requirements during the present season are expected to be greater than usual because of the poor range conditions and the increased numbers of cattle.

## HAY AND PASTURE

### SUPPLIES

The hay crop this year, plus the carry-over on farms May 1, is greater than the annual disappearance of hay during the last 4 years and seems to be sufficient to meet requirements of the slightly increasing numbers of hay-consuming livestock. In the Great Plains and Corn Belt areas, which produce most of the surplus hay for market, the hay crop was short because of drought. But in most of the Cotton Belt, which until recent years purchased a large proportion of its hay requirements from distant points, the supplies are ample for local needs. Present indications are that hay will not advance in price this season relatively to prices of other crops.

The 1933 hay crop was the fourth successive short crop for the country as a whole. The production, 67,337,000 tons of tame hay and 9,122,000 tons of wild hay, a total of 76,459,000 tons (Oct. 1 estimate) is 5,522,000 tons, or 6.7 percent below the 1932 crop and 7,707,000 tons, or 9.2 percent below the 1926-30 average. Including farm stocks of hay on May 1, the total supply of hay for 1933-34 is 87,088,000 tons, or 96.4 percent of the 90,294,000 tons available in 1932-33 and 92.5 percent of the average crop of 94,164,000 tons available for the 5-year period 1926-30. The average farm disappearance of hay indicated by production and stocks on hand at the beginning and end of the season (May 1) for the same 5 years was 84,467,000 tons, and during the last 3 years has been below 80,000,000 tons.

The low production of hay for the last 4 years was largely due to small crops of timothy and clover. The production of timothy and clover hay was 27,593,000 tons in the dry year of 1930 but in 1933 was only 24,738,000 tons, which represents a decrease in production of 10.3 percent below the 1930 crop. During the 5 years ended 1930 the average annual production of timothy and clover was 34,434,000 tons. The recent succession of dry years in the timothy and clover belt has made it impossible to reestablish a sufficient acreage to maintain the average production.

Alfalfa hay production of 24,952,000 tons for the country as a whole is about 1,000,000 tons, or 3.9 percent less than in 1932, but 1,133,000 tons, or 4.8 percent greater than the 5-year average (1926-30).

The total production of wild hay is 9,122,000 tons, or 25 percent below the 12,187,000 tons harvested last year and 21 percent below the 1926-30 average of 11,489,000 tons. The area of low production is largely confined to the surplus prairie-hay-producing sections of Minnesota, South Dakota, North Dakota, Nebraska, Kansas, and Oklahoma.

In certain areas, especially in Minnesota, South Dakota, North Dakota, Kansas, Oklahoma, Illinois, Ohio, and Indiana the hay crop was considerably below the average owing to lack of rainfall, and is insufficient for local requirements. In the main, however, the hay supplies in those States are sufficient to cover the usual disappearance. Supplies of hay and other feeds in the Cotton Belt States, which until recent years purchased large quantities of hay in the open market, are ample and in many cases they exceed requirements.



Ample supplies of hay and other feed to meet local requirements in most of the normally deficit hay-producing areas and low purchasing power of farmers are greatly restricting the commercial movement of hay. The movement from July to September (1933), as indicated by receipts at terminal markets, was lighter than for the corresponding period of any year since the World War. Receipts of hay at most of the larger terminal points have been chiefly restricted to hay necessary for local requirements. The small volume of shipping has been largely taken care of by the movement of hay direct from producer to consumer, a large portion of which is being transported by truck.

#### PRICES

Prices for the 1933 hay crop, during July, August, and September, have averaged approximately 12 percent higher than for the same period of 1932. Feed prices for the same period averaged approximately 54 percent higher. The advance in feed prices was due to a sharp advance in prices for grain and a short supply of feed grains. The low prices for hay when compared with grain prices were due to good late summer and early fall pastures in regions that ordinarily purchase dairy feed and to the low prices of dairy products in relation to feed prices.

#### ACREAGE

Under the Agricultural Adjustment Act regulations controlling the use of contracted acreage for such cash crops as cotton, wheat, corn, and tobacco, permit the seeding of land taken out of cultivation to hay and pasture for home consumption. Where land is under a regular rotation that provides for seeding the land to hay and pasture crops using wheat as a nurse crop, the hay and pasture acreage probably will not be affected by the reduction in wheat acreage as the seedings of hay and pasture crops would be made without the use of wheat as a nurse crop. Where corn follows the meadow crop in the rotation the contracted acreage for corn would probably be left in hay or pasture instead of being plowed for corn, thus increasing the total land in hay and pasture. When the contracted acreage is not in such rotation there may be additional seedings for hay and pasture. In the last two instances there would be a definite increase in the land available for hay and pasture. The extent to which the Agricultural Adjustment Act will affect the hay-and-pasture program cannot be fully ascertained at this time, but indications are that it will result in increased acreage of both crops, particularly pasture.

The acreage of pasture throughout the States east of the ninety-seventh meridian and in the irrigated valleys west of that meridian, could be increased. Experiments indicate that many dairy farmers especially would find it advantageous to change their system of farming to one in which they would keep much more of their land in permanent meadow, especially legumes, or would pasture and feed no grain, or a limited grain ration rather than a full grain ration. Land in pasture will not average one half as much total feed per acre as when seeded to cultivated crops and the use of pasture is limited to the growing season. In many cases, however, the lower production results in greater returns per acre because of the decrease in amount of labor involved in utilizing the crop. In view of the proposed reduction in the acreage of cultivated crops much of the land taken out of such crops should be seeded to pasture grasses to prevent soil erosion and preserve soil fertility. Experiments indicate that on the average, land in cultivated crops, such as corn or cotton, is eroded more than 100 times as much as is land in good sod.

Supplies of timothy, red-clover, and alsike-clover seed are below normal and those of alfalfa are about normal, whereas those of Kentucky bluegrass and redtop seed are much above normal. It is believed there will be sufficient seed to take care of a moderate increase in hay and pasture seeding above those of last year, which were about 15 percent below the 10-year average.

### MEAT ANIMALS AND MEATS

#### SUPPLIES

The supply of meat animals on farms, in terms of total live weight of the three species, at the beginning of 1934 probably will be slightly larger than at the beginning of 1933. It seems likely that the increase in cattle numbers will more than offset a rather marked reduction in the number of hogs on farms

and a slight decrease in the number of sheep and lambs. Consumer demand for meats, which has strengthened slightly in recent months, is expected to show further improvement during 1934.

The trend in meat-animal numbers on farms during the last 5 years has been upward. From January 1, 1928, to January 1, 1933, the supply of meat animals on farms, in terms of total live weight, increased about 10 percent. Cattle numbers have increased steadily since 1928, and the number on farms January 1, 1933, was nearly 15 percent larger than on that date in 1928. Hog numbers declined from 1928 to 1931, and then increased to 1933. A further increase in hog numbers would be recorded at the beginning of 1934 were it not for the recent slaughter of more than 6,000,000 pigs from the 1933 crop in connection with the operation of the Federal emergency hog-production control plan. Sheep numbers increased steadily from 1923 to 1932, the increase amounting to about 17,000,000 head or about 45 percent. Since 1932, however, sheep numbers have decreased slightly.

The commercial supply of meats and lard during the first 9 months of 1933, as measured by the total dressed weight of animals slaughtered under Federal inspection, was about 8 percent larger than that during the same period last year and about 5.4 percent larger than the average for the preceding 5 years. During the first 3 months of 1933, meat production was relatively small, but since April slaughter supplies of all livestock have been large. Production of meats and lard under Federal inspection from May to September 1933 was the largest for those months on record and was 19 percent larger than from May to September last year. This large increase in meat production since April has been due to the marked increase in both hog and cattle slaughter. Slaughter of sheep and lambs from May to September was slightly smaller than that in the corresponding months of last year and of 1931, but it was larger than that of all other years. Production of beef and veal under Federal inspection during these months was the largest since 1927, and the production of pork, including lard, was the largest on record.

The average live weight of all livestock slaughtered under Federal inspection during the first 9 months of 1933 was somewhat larger than last year but slightly less than the 5-year (1928-32) average. Compared with the January to September period in 1932 the increase in the average weight for the year thus far was 1.5 percent for cattle, 0.5 percent for calves, 1 percent for hogs, and 2 percent for sheep and lambs.

The per-capita supply of meats and lard (measured in terms of dressed weight) obtained from Federally inspected slaughter during the first 9 months of 1933 was 82.6 pounds, compared with 77 pounds in the same period of 1932, and 78.1 pounds in 1931.

Whether the total inspected meat production in 1934 will exceed that of 1933 will depend largely upon whether the decrease in hog slaughter, as a result of the operations of the Federal hog-production control plan, will more than offset the almost certain increase in the slaughter of cattle and calves.

#### DEMAND

Consumer demand for meats and lard declined greatly from early 1930 until the spring of the present year as a result of the drastic reductions in consumer incomes. Since the early summer of this year the demand situation has strengthened somewhat. For the year to date, however, the demand for meats and lard, measured in terms of quantities taken and prices paid by consumers, has averaged lower than in the corresponding period in 1932. Per-capita consumption of all meats and lard produced under Federal inspection from January to August 1933, totaling 67.1 pounds, was 3.5 percent larger than in the same months of 1932. The weighted average retail price of these products at New York during the 1933 period was about 11 percent less than in the 1932 period. Index numbers of retail food prices compiled by the United States Bureau of Labor Statistics show that retail meat prices for the entire country declined in about the same proportion as those at New York.

Computations, using New York prices, indicate that the total consumer expenditures for federally inspected meats and lard during the first 8 months of 1933 were about 14 percent less than in the same period of 1932 and about 29 percent less than in 1931.

Changes in demand from the first 8 months of 1932 to the same period in 1933 apparently were about the same for the different kinds of meat. Per-capita consumption of federally inspected beef and veal from January to



August 1933 was about 9 percent larger than in those months last year. Per-capita consumption of federally inspected hog products, on the other hand, was only slightly larger, and that of lamb and mutton was slightly smaller than a year earlier. The declines in the retail prices of the different meats at New York from 1932 to 1933 were as follows: Beef, 13 percent; hog products, 10 percent; and lamb, 7 percent.

Improvements in the industrial and financial situation and increases in employment and pay rolls since March have tended to strengthen the demand for meats during recent months. Although composite retail prices of all meats are still below those of a year earlier, they have advanced somewhat since early May. Although this rise may have been partly seasonal in character, it has been accompanied by relatively large slaughter supplies of all livestock. Consumer expenditures for meats in August and September apparently were about as large as in those months last year. Other factors, aside from the slight improvement in consumer demand for meats, which tended to support livestock prices during the late spring and early summer were the strong storage demand for hog products and the sharp rise in the prices of byproducts, such as hides and pelts. The storage demand was especially important in connection with hog prices, and the advance in byproduct prices has been of particular significance with respect to the prices of cattle, sheep, and lambs. Owing largely to the increase in the storage demand for pork and lard and to the higher value of byproducts, the amount paid for livestock slaughtered thus far in 1933 has shown only a slight decrease from 1932 in contrast with the marked reduction in consumer expenditures for meats. The amount paid for all livestock slaughtered under Federal inspection during the period from January to August 1933 totaled \$592,000,000 compared with \$595,000,000 in those months last year.

Consumer demand for meats during 1934 will depend largely upon the developments in the business and industrial situation, which will in turn determine the level of urban consumer incomes during the year. In view of the tendency for changes in expenditures for meats to occur somewhat later than the changes in consumer incomes, the maintenance of the present levels of employment and pay rolls in 1934 probably would result in some improvement in the demand for meats during 1934 over that in 1933. Substantial improvement in the domestic demand for meats and lard during next year, however, will depend upon further increases in consumer buying power.

## HOGS

Commercial slaughter of hogs during the 1933-34 marketing year (Oct. 1, 1933-Sept. 30, 1934) will be considerably smaller than that of the preceding marketing year, and will be much smaller than was indicated early in the summer when the spring pig crop report was issued. Total liveweight of hogs to be slaughtered is estimated at 12 percent smaller than in the preceding year. This reduction from earlier indications was brought about by the slaughter of some 6,000,000 pigs in August and September under the Federal emergency hog-production control plan and by the short production of corn and other feed crops which caused a reduction in fall farrowings from what was estimated in June. The expected decrease in hog slaughter will occur largely during the winter-marketing period (Oct. 1, 1933, to May 1, 1934).

Domestic demand for hog products, although still at a very low level, has improved slightly in recent months. Continued improvement will depend upon a further increase in consumer incomes. Little immediate expansion in the foreign outlet for American hog products is in prospect. Higher import duties on lard in Germany and the continuation of the British quota system for cured pork imports probably will restrict United States exports of hog products during 1933-34 to the low level of the last 2 years.

In view of the sharp curtailment in slaughter supplies of hogs for the 7 months, October 1, 1933, to May 1, 1934, a rather substantial advance in wholesale and retail prices of hog products seems certain. This advance will be reflected in higher costs (market price plus processing tax) of hogs to packers. When this advance will take place, and its extent, will depend considerably on how the marketings of the remainder of the spring pig crop will be distributed.

## DOMESTIC SUPPLIES

The 1933 spring pig crop for the United States was estimated at 51,030,000 head. This represents an increase of about 1,443,000 head, or 3 percent, over the 1932 spring pig crop. In the Corn Belt States where about 90 percent of

the commercial supply of hogs is produced, the estimated pig crop for the spring of 1933 totaled 40,949,000 head, which was 4 percent larger than the 1932 spring pig crop in those States. The largest increase in the 1933 spring pig crop was in the eastern Corn Belt States where the crop was estimated at 8 percent larger than that of 1932. The increase in the western Corn Belt was 3 percent. In other regions of the United States except in the Western States little change was reported in the number of pigs saved in the spring of 1933 compared with the spring of 1932. In the Western States there was a decrease of 11 percent.

The June pig report indicated that if farmers should carry out their intentions, as expressed at that time, there would be a large increase in the number of sows to farrow in the fall season of 1933. This increase amounted to 8 percent for the United States and 13 percent for the Corn Belt. Developments since June 1, however, indicate a material change in fall-farrowing plans from those indicated at that time. Drought over widespread areas in the Corn Belt, which prevailed during most of the crop-growing season, has resulted in a marked reduction in the 1933 corn crop from that of 1932. The unfavorable relationship between hog prices and corn prices during June, July, and August, together with other developments, is likely to result in little if any increase over 1932 in the 1933 fall farrowings, with a decrease not improbable.

In late August of this year, the Department of Agriculture, under the terms of the Agricultural Adjustment Act, put into effect the emergency program designed to reduce market supplies of hogs during the 1933-34 marketing year. Under this program about 6,141,000 pigs, weighing less than 100 pounds, and about 221,000 sows, weighing in excess of 240 pounds and bred to farrow this fall, were purchased for slaughter on Government account. Only a minor proportion of this slaughter was used for the production of edible products and such products are being distributed for relief purposes and are not entering regular domestic distribution channels. Nearly one fourth of these products had been distributed by November 1.

With the combined spring and fall pig crop of 1933 at least as large and probably somewhat larger than that of 1932, it seems probable that inspected hog slaughter during the 1933-34 marketing year would have been somewhat larger than that of 1932-33 if the pig purchases for Government account had not been made. This purchase of approximately 6,000,000 pigs probably will reduce the supplies of hogs for inspected slaughter in 1933-34 about 5,000,000 head below what they otherwise would have been. It is probable that because of the short corn crop and the unfavorable hog-corn price ratio, the average weights of hogs marketed during 1933-34 would have been considerably lighter than in 1932-33 had no pig-slaughter plan been adopted. But now with a reduced number of hogs to be fed the reduction in average weights will be somewhat less than it would have been without the pig-slaughtering plan. The total live weight of hog slaughter under Federal inspection in 1933-34 is expected to be about 12 percent smaller than that of 1932-33.

The seasonal distribution of hog slaughter during the present marketing year will depend upon several factors. In the normal course of production and marketing, the pigs slaughtered under the hog-production control program would have been marketed largely from January to April 1934, hence the greatest reduction in hog slaughter during the winter-marketing period is expected to occur in these months. If, however, producers tend to hold hogs back from market in anticipation of a price advance after January 1, it seems probable that the reduction in winter marketings will be spread more evenly over the entire period from October to April than otherwise would be expected.

Recently a more permanent plan for hog-production control has been announced by the Agricultural Adjustment Administration. This plan involves the cooperation of hog producers and the Federal Government in reducing slaughter supplies of hogs in 1934-35. Farmers entering the plan of cooperation must agree to reduce the number of pigs raised during 1934 by 25 percent from some base-period production. In return for this reduced production the farmers entering the agreement will receive an adjustment payment of \$5 per head on 75 percent of their base-period allotment. If a major proportion of the hog producers enter this plan of cooperation, it will result in a substantial reduction in the number of sows and gilts kept for the 1934 spring farrow. These sows and gilts, which otherwise would have been retained for the spring farrow, will be marketed during the winter marketing period 1933-34 instead of being sold largely during the summer of 1934 as packing sows. This shift in marketings will result in a smaller decrease in winter marketings than would have occurred



as a result of the pig-slaughter plan alone, but it probably will not affect the total slaughter supplies for the marketing year materially.

The hog-production control program will be financed by a processing tax on hog slaughter. The initial tax as announced by the Secretary of Agriculture was 50 cents per 100 pounds effective November 5, 1933, to be increased at intervals until February 1, 1934, when it will be \$2 per 100 pounds, effective during the remainder of the 1933-34 marketing year and through the 1934-35 marketing year. Storage stocks of pork and lard on November 5 also were subject to the equivalent of the initial processing tax rate on hog slaughter of 50 cents per 100 pounds, live weight.

The reduction in slaughter supplies of hogs during the 1934-35 marketing year will be determined largely by the extent of cooperation in the program by hog producers. If no control program had been inaugurated, it is probable that hog slaughter in 1934-35 would have been reduced, since the short corn crop in 1933 and the unfavorable relationship which would have existed between hog prices and corn prices would have resulted in a material reduction in the 1934 pig crop. The reduction planned under the production-control program is greater than that which normally would occur as a result of the operation of other causal factors.

Federally inspected slaughter of hogs during the marketing year ended September 30, 1933, not including pigs and sows slaughtered for Government account, totaled about 47,103,000 head as compared with 46,655,000 in 1931-32. Slaughter during the marketing year just ended was the largest since 1928-29. All of the increase occurred after April 1933; slaughter from October 1932 to March 1933 showed a decrease of about 10 percent from that of the same months in 1931-32. The period from May to September is usually considered as the marketing season for the fall pig crop. Inspected slaughter during the May to September period of 1933 amounted to about 19,341,000 head, the second largest total for these months on record. Slaughter from May to September this year also represented the second largest proportion of the total marketing-year slaughter for any year on record. The average live weight of hogs slaughtered under Federal inspection for the 1932-33 marketing year of about 232 pounds was 2 percent greater than the average weight in the 1931-32 year, consequently the increase in the total live weight of hogs slaughtered was relatively greater than the increase in numbers of hogs slaughtered.

#### STORAGE SUPPLIES

The storage situation for hog products changed greatly during the 1932-33 marketing year. Storage holdings on November 1, 1932, the beginning of the storage season, were below average, and storage accumulations until April 1933 were relatively small. Storage accumulations from May to September, however, were the largest on record. The relatively large slaughter supplies of hogs during the summer months and the activity in the speculative hog-products market were the principal factors resulting in the very large into-storage movement of pork and lard from May to September.

Although the relatively large increase in slaughter supplies of hogs during the summer months of 1933 was accompanied by some increase in the movement of hog products into domestic consumption, a considerable part of this increase in slaughter was reflected in larger storage stocks of pork and lard. Storage stocks of pork on September 1 were the fifth largest for that date on record, and holdings of lard on September 1 were the largest for all dates on record. Some reduction in storage supplies occurred during September, but stocks of pork on October 1, totaling about 629,000,000 pounds, were the second largest on record for that date. Holdings of lard, amounting to 192,000,000 pounds, were the largest for October 1 on record.

Storage supplies of pork usually reach a maximum in the spring and decrease thereafter until the early winter when a minimum is reached. Holdings of lard are usually at maximum volume in the late summer and at a minimum in early winter. The large net accumulation of storage holdings of pork during the summer, therefore, was in marked contrast to the usual seasonal movement. The increase in storage of hog products on October 1 this year compared with October 1, 1932, was equivalent to about 1,580,000 hogs. Most of the surplus storage stocks held at the end of the summer are usually disposed of before the beginning of the new packing season November 1. During September the reduction in stocks of pork amounted to 124,000,000 pounds, and in

stocks of lard to 32,000,000 pounds. The reduction in case of lard was about average for the month, but it was greater than average in case of pork.

Although storage stocks of pork and lard on November 1 probably were larger than average for that date, the carry-over of stocks into the new storage season is likely to be much smaller than was anticipated in the early fall. Because of the imposition of the floor tax on stocks of pork and lard on November 5, it is probable that the movement of cured pork products and lard out of storage during October was relatively large and that the movement of products into storage was very small. The smaller-than-average slaughter supplies of hogs in October facilitated the movement of both fresh and cured pork into domestic-consumption channels during the month.

#### DOMESTIC DEMAND

(See Demand, p. 38)

#### FOREIGN COMPETITION AND DEMAND

The prospects for continued small exports of American hog products in foreign markets are largely the result of (1) the import quotas on cured pork now in effect in Great Britain, and (2) the very high import duties imposed by Germany on lard. Indications are that, under the quotas as drawn and as contemplated, American cured-pork exports (chiefly hams and shoulders) in 1933-34 may be smaller than the unusually small exports during the last 2 years. In the case of lard, a marked curtailment of the German market may be expected to result in relatively small exports of this product from the United States in 1933-34. Because of these governmental restrictions to trade, the reduction in European hog numbers noted to date is not an important strengthening factor in the foreign outlet for American hog products.

Total exports of hog products from the United States during the 1932-33 marketing year ended September 30, amounting to about 703,000,000 pounds, were about 3.5 percent larger than in the 1931-32 season, but they were about 5 percent smaller than in 1930-31. The level of exports during the last 3 years, however, has been much below that of other post-war years. Both pork and lard exports for the marketing year just ended were slightly larger than those of a year earlier, but as compared with the average of the last 10 years, lard exports have been more nearly maintained than pork exports.

Indications of a downward trend in hog production in the European countries exporting cured pork to Great Britain became evident late in 1931. The tendency to curtail production was especially marked in Denmark. Hog production in Germany began to decline in 1932 and continued downward into 1933. There are strong indications, however, that the low point of the production cycle has been reached in those countries normally unable to supply their own needs. Both surplus- and deficit-producing countries appear to be tending more and more toward self-sufficiency.

Great Britain has inaugurated plans for reserving a larger share of the domestic cured-pork market for domestic and Empire products, especially the former. The voluntary quotas on non-Empire cured pork adopted since November 1932 have been preliminary to more permanent import control. British hog producers have signified their approval of the Government's plan for control of production and marketing of hogs and hog products, and it is scheduled to become effective March 1, 1934. By that time, it is expected that it will be possible to estimate the forthcoming supplies of cured pork produced in Great Britain. It is the announced intention of the British Government to try to stabilize total pork supplies at about the average annual level of the 5-year period 1926-30. Since November 1932 the quota allotments to the various countries that usually supply Great Britain with pork have been on the basis of the business done in a relatively few recent months. During this period the quantity allotted the United States was relatively small. Consideration has been given, however, to a plan of revising quotas for the year beginning March 1, 1934, with a view to using a longer-time period as a basis for determining allotments to the exporting countries. The use of a longer-time base period would be relatively more favorable to the United States than the present base, since cured-pork exports from this country have trended sharply downward since 1920. Difficulties experienced recently in securing voluntary agreements to reductions in imports prior to March 1 suggest the strong probability of the adoption of mandatory quotas.



The operations of the quota scheme since November 1932 have resulted in reducing materially the supplies of foreign cured pork in British markets. In September 1933, for example, total imports of cured pork reached about 92,000,000 pounds. In September 1932, total imports amounted to about 108,000,000 pounds and these came principally from non-Empire sources. The reduction has been relatively greater in bacon than in hams, supplies of the latter from the United States having been somewhat larger in recent months than the exceptionally small imports of a year ago. A treaty in effect permits Denmark to furnish 62 percent of the total cured pork imported. For the year ended September 30, 1933, the monthly exports of ham and bacon from the United States to Great Britain averaged 5,876,000 pounds, compared with 4,850,000 pounds in 1931-32, 7,840,000 pounds in 1930-31, and 12,410,000 pounds in 1929-30.

The German policy of self-sufficiency in animal fats is the motive behind a duty rate of 1 mark per kilo (16.2 cents per pound at exchange as of October 26) on lard, effective since July 19, 1933. Protection of domestic butter from competition with foreign or domestic lard and margarine is the main object of the German policy with respect to control of fats and oils. The extensive German margarine industry is surrounded with regulations to prevent serious competition with butter. German hog producers also are expected to benefit from the new measures, but greatly increased hog production is not being encouraged. The larger volume of pork incidental to increased lard production would present a serious problem.

#### PRICES

After declining almost steadily since early 1930, hog prices reached the lowest level in more than 50 years in late December 1932. From January to April of this year the trend in prices was slightly upward largely as a result of reduced slaughter supplies. Primarily because of the expectation of rising prices, a strong speculative demand for hog products developed in April and hog prices advanced sharply during May. The average price of hogs at Chicago in May was \$4.51 per 100 pounds, the highest monthly average for that market since November 1931. This advance was partially maintained during June and July, despite the largest hog slaughter on record for the 3-month period, May to July. With supplies continuing relatively large, hog prices declined during August. During September hog marketings were reduced and prices advanced somewhat, but this price rise was lost in October. The Chicago average price of hogs at the end of October was about \$4.10 which was nearly \$1 higher than that of the same date in 1932.

The total live weight of hogs slaughtered under Federal inspection during the 1932-33 marketing year was about 2.8 percent larger than in the preceding year, and the average price paid by packers was \$3.69 per 100 pounds, or about 35 cents less than in the previous year. The total amount paid by packers for hogs slaughtered under Federal inspection for the marketing year 1932-33 totaled about \$402,000,000, compared with \$430,000,000 in 1931-32. This represents a decrease of 7 percent.

#### PRODUCTION OUTLOOK

Hog production and slaughter during the next 2 years will be greatly affected by the operation of the hog-production control plan. The ultimate aim of the plan is to increase hog prices to the fair exchange value as defined in the Agricultural Adjustment Act. The pre-war base price of hogs was \$7.22 and the fair exchange value would be this price multiplied by the index of prices paid by farmers. This index in October 1933 was 116 and the present computed fair exchange value is about \$8.40, or more than twice as high as present prevailing prices.

The plan for hog-production control next year provides for a reduction on the part of cooperating producers of 25 percent in the number of hogs sold for slaughter from a base-period production. The extent to which such a reduction is realized will depend upon the proportion of hog raisers that come under the plan, the extent to which noncooperators expand their production in anticipation of an advance in prices resulting from reduced total production, the dependability of the base-production figures upon which the 25 percent reduction is computed, and the extent to which cooperators carry out their agreements to reduce their production.

Inspected commercial slaughter during each of the last 2 marketing years has been about 47,000,000 head. If most commercial hog producers enter the plan of cooperation to reduce hog production, it is not improbable that inspected hog slaughter in 1934-35 will be much smaller than in any marketing year since 1920-21 at least. Slaughter during the 1920-21 marketing year totaled 38,663,000 head. With some improvement in business and industrial conditions in prospect, such a reduction in slaughter supplies during 1934-35 probably would result in a considerable advance in hog prices, and total returns to hog producers, including adjustment payments from the Federal Government, would be larger than the very low returns received during each of the last 2 years. If the hog-production control plan should then cease, it is not improbable that a sharp increase in hog production would occur in the following year.

### BEEF CATTLE

The upswing in cattle and calf slaughter which got under way in early 1933 is expected to continue for several years. Slaughter supplies in 1934, however, will probably include fewer of the better finished kinds and more of the lower grades. Cattle numbers have been increasing since 1928 and are expected to continue to increase through 1934.

Moderate improvement in the consumer demand for meats has been in evidence in recent months. Further improvement will depend upon continued increase in consumer buying power. Demand for beef during 1934 may be stimulated somewhat as a result of reduced production of competing meats. But any improvement that may develop in the demand for beef during the next 2 years will be offset to a considerable extent by the increase in supplies of cattle for slaughter.

### DOMESTIC SUPPLIES

The total number of cattle and calves on farms about October 1 this year was probably about 2,500,000 head larger than at the corresponding date a year earlier. This increase is about the same as the net increase made in cattle numbers during 1932. The number of cows and heifers in this country at the beginning of 1933 was probably the largest on record. Because of the increase in the number of cows, the number of calves born this year will probably exceed the number born in 1932 by 1,000,000 head. This increase in calves born about offsets the total increase in cattle and calf slaughter during the first 9 months of the year. What the increase in cattle numbers on January 1, 1934, over January 1, 1933, will amount to depends upon total slaughter during the last 3 months of this year. Although slaughter during these 3 months will much exceed that of a year earlier a further material increase in cattle numbers this year is certain.

Inspected slaughter of cattle during the first 9 months of 1933, totaling 6,296,000 head, was nearly 10 percent larger than in the corresponding period of 1932 and was slightly larger than in the same months of 1931. Calf slaughter also increased, the total for 9 months being 7 percent larger than a year earlier. The increase in Federally inspected slaughter of cattle and calves combined amounted to about 800,000 head. Most of the increase in cattle slaughter was in the slaughter of cows and heifers. During the first 9 months, cow slaughter was 17 percent larger than in that period last year and steer slaughter was only 3 percent larger. In May and June, slaughter of cows was the third largest for these months in the last 13 years. All of the increase in slaughter supplies of cattle this year occurred since April. Slaughter from May to September was the largest for those months since 1927. The average live weight of cattle slaughtered during the first half of 1933 was about 20 pounds heavier than a year earlier, but that of calves was slightly lighter. The increase in the total live weight of cattle and calves slaughtered under Federal inspection during the first 9 months over the corresponding period of last year amounted to 10.9 percent.

The larger slaughter of cattle and calves this year represents, undoubtedly, the upswing in cattle slaughter that would be expected to result from the increase in cattle numbers which began in 1928. This upswing, which was delayed for 2 years as a result of the declining cattle prices accompanying the depression, was accelerated somewhat this year by the shortage of pasture and the small production of feed and forage. But once under way, it may be expected to continue until cattle numbers and the yearly production of cattle



and calves are reduced to a level better adjusted to consumptive demand at a remunerative price.

The increased number of cattle on feed on August 1 this year has been reflected in the heavy marketings of fed steers during the 3 months, August to October. As a result of this large supply there has been no seasonal advance in prices of such cattle since June. Likewise, there has been a very small movement of heavy feeders to feed lots since June to replace the heavy marketings of recent months. As a consequence, a rather sharp curtailment in the supply of fed cattle by the end of the year is in prospect.

The drought that prevailed generally over the whole area from the Great Plains to the Pacific Ocean during June, July, and most of August was broken over most of the area east of the Continental Divide by heavy rains during the latter part of August and early September. With mild temperatures during September a good growth of new grass was made and the stock-water situation in this area was greatly improved. Although this new grass relieved the feed situation temporarily, it is questionable whether it will be of much value as winter feed. Over most of the area west of the Divide the drought condition continued during September and range conditions deteriorated further. For the whole western area, the condition of ranges and of cattle and sheep on October 1, was about the lowest ever reported for the that month during the last 11 years.

In western Kansas, western Oklahoma, and the Panhandle and Plains sections of Texas, the rainfall in August and September increased markedly the production of grain sorghums and other forage and made possible the seeding of winter wheat. Wheat has made a good growth in most sections of this area, and, with an open winter, will furnish a large amount of pasturage and help to offset the shortage of other feeds.

This improvement in the feed situation tended to check the marketing of cattle during September, with the result that slaughter in that month showed a smaller increase than in July and August. To a considerable extent this represented a holding back of cattle in the hope that some improvement in prices might take place. But in spite of the continuing decline in prices, especially for lower grade cows, the marketings of grass cattle both from the Corn Belt and from Western States are expected to be large, relative to years since 1927, during the remainder of 1933.

#### IMPORTS

Cattle imports during the first 9 months of 1933 totaled 62,000 head compared with 69,000 head for the first 9 months of 1932 and 70,000 in the corresponding period of 1931. Mexico supplied 58,000 head of the 1933 total and 4,000 came from Canada.

Supplies of canned beef inspected by the Bureau of Animal Industry for entry into the United States from January 1 to September 30, 1933, amounting to 31,707,000 pounds, were about 83 percent larger than those received in the corresponding period of 1932, and more than double those received during the first 9 months of 1931. These imports of canned beef were the equivalent of about 90,000 steers. Imports of fresh and frozen beef during the first 9 months of the year totaled 366,000 pounds compared with 738,000 pounds imported during the first 9 months of 1932. Canada and New Zealand continue as the leading sources of imports of fresh and frozen beef, supplying 155,000 pounds and 196,000 pounds, respectively, the remainder coming from Australia. The imports of live cattle and the imports of canned and other beef during the first 9 months of 1933 were the equivalent of slightly more than 2 percent of cattle slaughter under Federal inspection during this period.

#### FEEDER DEMAND

Demand for feeder cattle during the first half of 1933 was considerably stronger than the restricted demand that prevailed during the first half of 1932. Inspected shipments of feeder cattle during the first 6 months of this year, totaling 737,000 head, were 20 percent larger than those of the first half of last year. Prices of stocker and feeder cattle during the first half of 1933 were slightly lower than in the corresponding months of 1932, but the spread between prices of feeder cattle and those of slaughter cattle was much smaller. Shipments of feeder calves constituted a larger proportion of the total feeder shipments during this period than in the corresponding period of 1932.

Developments in the cattle-feeding situation from June to the end of September point to a relatively small volume of cattle feeding in the winter of 1933-34, both in the Corn Belt and in most other important feeding States. The short corn crop, the relatively high prices of feed grains, hay, and other feeds, the failure of fat-cattle prices to make any seasonal advance since June, the generally unfavorable returns from cattle feeding during the last 12 months, and in some States the difficulty of financing feeding operations, are the chief factors responsible for the reduction in cattle feeding this fall.

Shipments of stocker and feeder cattle, inspected through livestock markets into the Corn Belt States, during the 3 months, July to September this year, were much the smallest for this period in at least 15 years. The small movement in July and August may be attributed in part to the shortage of pastures generally, but the continued small movement in September was a reflection of the general lack of confidence in the outlook for fed cattle. Shipments during July to September this year were about 30 percent smaller than in those months last year, when shipments were large because of the unusual movement of heavy feeders. As compared with the same months in 1927, the period of the next smallest shipments in 15 years, the reduction amounted to about 17 percent. The greatest decrease from last year was in the movement into the Corn Belt States east of the Mississippi River. Only about half as many cattle were shipped into these States during the 3-month period this year as were shipped in during July to September 1932. Shipments from central markets into States west of the river were about 15 percent less than the small movement last year. There was, however, a relatively large direct movement (largely by truck) from local auction markets in Nebraska and some other States, where this method of marketing continues to expand.

During other recent years in which shipments of stocker and feeder cattle into the Corn Belt were small during July to September, a relatively heavy movement during the last 3 months of the year has occurred. Market supplies of all cattle from October to December this year are expected to be relatively large so that ample supplies of unfinished cattle will be available to meet any improvement in demand for stockers and feeders. Whether such improvement occurs will depend largely upon the trends in prices of fat cattle and of feed grains during the next 6 months.

Available evidence at the end of September indicated that cattle feeding in most of the Western States and in Texas would be on a reduced scale this winter. In most of these States, feed prices are much higher than a year ago, and the returns from cattle feeding last winter were not such as to encourage feeding operations this year.

#### CONSUMER DEMAND

(See Demand, p. 38)

#### PRICES

Cattle prices trended sharply downward from early 1930 through 1932, despite the relatively small slaughter supplies during that period. Although prices did not decline much during the first 9 months of 1933, they were below those of a year earlier and were at the lowest levels in more than 25 years. Prices of the better grades of slaughter cattle fluctuated around a fairly stable level during the first 4 months of this year, but trended slightly upward from early May to late July. From early August to the end of October, prices of these grades declined about \$1 per 100 pounds. Prices of the lower grades of slaughter cattle advanced somewhat from February to early June and then declined from \$1 to \$1.50 per 100 pounds by the end of October. With the exception of good grade cows, prices of all slaughter cattle in late October were below those of a year earlier. Prices of stocker and feeder cattle advanced somewhat during the spring in accordance with the usual seasonal tendency, but have declined since early June. Prices of veal calves were fairly stable during the first half of 1933, fluctuating around a level of about \$5.50. During the last 4 months, however, prices of calves advanced somewhat and in late October they were somewhat higher than a year earlier.

The spread between prices of the lower and higher grades of slaughter cattle at the end of October was much smaller than that of a year earlier. In view of the probable marked decrease in the proportion of the better grades of cattle in the slaughter supplies during most of 1934, the margin between the prices of



these grades and the prices of the lower grades is expected to widen materially, and will probably reach a maximum in the late summer of 1934.

The average price of cattle slaughtered under Federal inspection from January to September was \$4.27 per 100 pounds compared with \$5.16 for the corresponding months in 1932 and \$6.48 in that period in 1931. The average price of slaughter calves during the first 9 months of 1933 was \$4.75 per 100 pounds compared with \$5.28 in 1932 and \$7.54 in 1931. The lower prices in 1933 were accompanied by larger slaughter supplies of both cattle and calves, but this increase in supplies was not sufficient to offset the decline in prices. The total amount paid for cattle and calves slaughtered under Federal inspection during the first 9 months of 1933 was about \$286,000,000 compared with \$309,000,000 in the corresponding months of 1932 and \$421,000,000 in 1931.

#### PRODUCTION OUTLOOK

The outlook for cattle producers during the next 2 years, at least, is relatively unfavorable; but the outlook for cattle feeders during the next 12 months is more promising. Market prices of grass cattle of all kinds—cattle for slaughter and stockers and feeders—are now at the lowest point reached since prices turned downward in 1929, and for some kinds are near the lowest on record. Transportation and marketing costs relative to cattle prices are the highest on record, which makes the returns to producers even lower than market prices indicate.

Although low prices are tending to restrict marketings, the shortage of feeds in many areas and financial necessities are causing cattlemen to make relatively heavy shipments, so that cattle slaughter and supplies of beef for consumption are large at a time when consumer purchasing power is still at a low level. The increase in slaughter since April of this year is no greater than the increase to be expected from the large supplies of cattle now on farms, but it is larger than would have occurred at the prices prevailing if the feed situation were more favorable.

Supplies of fed cattle during the next 12 months are expected to be considerably smaller than they were during the preceding 12 months. This reduced supply will probably become evident in November and December and continue through next summer. But if fat cattle should strengthen somewhat during the next few months, and prices of feed grains should continue to decline or even remain at levels prevailing in late October, a rather strong demand for and heavy purchases of feeders during the late winter and spring may take place. Since such purchases would include a large number of cattle that otherwise would go for slaughter, they would tend to strengthen the prices of all cattle, and especially those of the lower grades, at the time they were being made. The resulting increase in the supply of fed cattle later in the year, however, would tend to depress the prices of such kinds at the time they come on the market. With feeder cattle and corn at present price levels, and smaller supplies of fed cattle and some further improvement in consumer purchasing power in prospect, the outlook for a favorable outcome for cattle feeding seems more promising than for some years.

With present numbers of cows, the annual output of cattle and calves is equal to the largest yearly slaughter of such stock on record. In order to move the total beef and veal production from such a slaughter into consumption, a substantial further increase in consumer buying power is necessary to avoid a reduction in prices of these meats. Although further improvement in consumer buying power is expected during the coming year, it is hardly likely that this improvement will be sufficient to justify large expenditures for feed in order that cattle may be carried over. The retention of cattle on farms and ranges might improve the situation temporarily but would result in a further accumulation of supplies that must eventually be disposed of. A substantial reduction in cow numbers seems necessary before the cattle industry will again be on a profitable production basis.

The current cycle in cattle production has been in its upward phase since 1928. Cattle numbers at the beginning of 1933 were about 15 percent larger than 5 years earlier. Judging from the normal length of previous cycles and other factors now at work, numbers are likely to continue to increase for at least 2 more years. The increase thus far has only recently been reflected in increased cattle slaughter. In previous cycles, slaughter turned upward in the third year following the beginning of the increase in numbers and it increased for 3 consecutive years before the expansion in numbers was checked.

## SHEEP AND WOOL

Sheep numbers in the United States are now on the downward trend of the production cycle. A peak in numbers was reached in 1931, following a period of 9 years in which they increased more than 45 percent.

In the western sheep States the length and extent of the downward movement in flock numbers will be determined largely by the number of ewe lambs kept for flock replacements during the next few years. Such replacements during the last 2 years have been relatively small, and the number of ewes of older ages in western flocks is now relatively large. Present widespread poor range conditions, prospective feed shortage during the coming winter, and possible difficulties of financing make normal replacements this year unlikely. In the "native" or "farm-flock" States, where sheep and lambs are largely a minor enterprise, no material change in flock numbers or lamb production during the next few years appears probable.

Marketings of lambs during the remainder of the present marketing year (up to May 1, 1934) are expected to be smaller than those of a year earlier. Present indications point to some reduction in lamb feeding during the coming winter.

World sheep numbers and world wool production have been relatively large during recent years, but world wool production in 1933 will be smaller than in 1932. Domestic-mill activity has been at high levels for the last 6 months, and conditions in the wool industry in Europe have also improved. Although wool prices have advanced materially in both domestic and foreign markets, the domestic advance has been the greater, and the margin between domestic and foreign prices has widened sufficiently to permit imports of substantial quantities of most grades of wool. With a continuation of imports probable, the trend of domestic wool prices during the remainder of this year and in early 1934 will be influenced largely by the movement of prices in foreign markets and the relationship of the dollar to currencies in the principal exporting countries.

### SHEEP AND LAMBS

#### SUPPLIES

The 1933 lamb crop, estimated at 28,988,000 head, was 729,000 head, or 2.5 percent smaller than the 1932 lamb crop, and was the smallest since 1929. Practically all the decrease was in the western sheep States, where the lamb crop of this year, estimated at 18,051,000 head, was about 4 percent smaller than that of 1932. The number of lambs docked per 100 ewes (the percentage lamb crop) in the Western States this year of 70.2 percent was the smallest in the 10 years for which estimates have been made. Last year it was 71.3. The 9-year average, 1924-32, was 79.7. This decrease in percentage lamb crop accompanied a decrease of 592,000 head in the number of breeding ewes on January 1 in the western sheep States.

Although the percentage lamb crop was below average in all the Western States this year it was above that of last year in the States where feed and weather conditions in the winter of 1931-32 were most severe on sheep—Colorado, Utah, Nevada, and Idaho. It was below that of last year in Montana, Wyoming, New Mexico, Washington, Oregon, and California, and was unchanged in Texas and South Dakota.

The reduction in the 1932 lamb crop in the Western States was a result largely of the severe winter of 1931-32 and the shortage of feed following the 1931 drought. The reduction in the lamb crop this year was caused by the unfavorable spring weather, with severe storms in April and May, and the shortage of feed during the lambing period in the late lambing States.

Death losses were much above average in both 1932 and 1933. The spring losses in some sections in the latter year were almost as large, relatively, as the heaviest winter losses incurred in any of the States in 1932.

Range feed in nearly all of the western sheep States was slow to start this year because of the late cold spring, and it was not until late May that supplies of feed became fairly ample. The condition of ranges on June 1 was poor for that date. The month of June was dry and hot over most of the West and, instead of making the usual seasonal improvement during June, range conditions declined and on July 1 were the lowest for that date in the 10 years for which records are available. The condition of sheep and lambs on July 1 was also the lowest on record for that date.



Continued drought through July and much of August brought further deterioration to range feed. During the latter part of August and early September, however, the area east of the Rocky Mountains received heavy rains that greatly relieved the stock-water situation. September temperatures were generally mild and a very considerable growth of new grass was made which temporarily improved the feed situation, but the value of this feed for winter is questionable. In the area west of the Rocky Mountains rainfall was insufficient and feed conditions continued to decline.

Most of the drought area in Texas was much improved by the August and September rains, but precipitation in the main sheep area in the Edwards Plateau was very light and feed conditions there continued to decline. The feed situation in this area at the middle of October was very serious, with little prospect for improvement before next spring. Unless large supplies of feed are shipped into this area a very heavy death loss next winter seems certain.

Although supplies of hay and feed grains in most of the western sheep States are larger than at the end of 1931, prospects for winter range feed, especially on the desert ranges, are little if any better than in 1931. Sheepmen in much of this area are facing another winter of short feed supplies and relatively high-priced feed.

Supplies of all kinds of feed grains, hay, and forage in the Corn Belt States will be short generally, but this shortage probably will not be sufficient to cause any liquidation of native breeding sheep in these States. Generous rainfall during August and September over much of the area and a late fall generally have materially improved the feed situation. This improved feed situation has not yet improved the Corn Belt demand for feeder lambs, and shipments of lambs from markets into this area from July to September were but little different from the very small shipment in these months in 1932 and were over 40 percent smaller than the average for the 5 years 1927 to 1931. The direct movement of western lambs to Corn Belt feed lots for these months was also below last year, and the total movement, from markets and direct, for the 6 months July to December promises to be below that of last year.

Although information available as to feeding in the Western States before the middle of November is usually inadequate, reports from these States indicate that for the whole area feeding will be in somewhat smaller volume than last year, with most of the decrease in Colorado and Texas.

Slaughter of lambs and sheep for the first 6 months of the current crop-marketing year which began May 1 was about 9,000,000 head, a decrease of about 2 percent from the first 6 months of the 1932-33 marketing year. Should the proportion of slaughter during the first 6 months this year to slaughter for the whole crop year be about the same as the proportion that prevailed in most years since 1922, total crop-year slaughter and slaughter during the last 6 months would both exceed that of the previous crop year. If the proportion should be as large as in the 1932-33 year, slaughter for the entire year and the last 6 months would be somewhat smaller than in the 1932-33 year. It seems more likely that the latter rather than the former will be the case.

The proportion of aged sheep in the total slaughter supplies of sheep and lambs has been relatively small in recent years, and it was unusually small during the last two marketing years because of the very low prices of aged slaughter sheep. During these 2 years, 96 percent of the total slaughter supplies of sheep and lambs consisted of lambs and yearlings, which was the largest proportion found in the 11 years since 1922 for which records are available.

#### DEMAND

(See Demand, p. 38)

#### PRICES

The trend of sheep and lamb prices was sharply downward from early 1929 to the end of 1931. From late 1931 to May 1933, prices of Good and Choice grade slaughter lambs at Chicago fluctuated between \$5 and \$7 per 100 pounds, with a tendency to hold close to \$6 much of the time. In May of this year lamb prices advanced sharply and in early June new-crop lambs sold above \$8 per 100 pounds at Chicago. This advance in prices was fairly well maintained through June and July, but prices have tended downward since early August.

The price of Good and Choice grade slaughter lambs at Chicago in late October was about \$6.50 per 100 pounds compared with \$5.20 at that time last year. The increase in lamb prices during the summer compared with a year earlier was largely a result of the sharp advances in prices of pelts and other byproducts, since wholesale prices of dressed lamb have been lower than last year. Prices of feeder lambs are also higher than a year earlier. The price of Good and Choice feeder lambs at Chicago in late October was \$6.30 compared with \$5 a year earlier.

Prices of slaughter ewes dropped to the lowest levels on record in the fall of 1931; then they made some recovery in the first quarter of 1932, most of which was lost in May of that year. Prices thus far in 1933 have held fairly stable at a level above that of 1932. The average price of slaughter ewes at Chicago in late October was about \$2 per 100 pounds compared with about \$1.60 at that time in 1932.

The average price of sheep and lambs slaughtered under Federal inspection during the 9 months January to September 1933 was \$6.03 per 100 pounds compared with \$5.79 in the corresponding period in 1932 and \$7.55 in 1931. Slaughter supplies of sheep and lambs during this period were 3.3 percent smaller than in 1932 and about the same as in 1931. With the increase in prices this year over last year about offsetting the decrease in supplies, the amount paid for sheep and lambs slaughtered under Federal inspection during the first 9 months of 1933 totaled about \$64,000,000 or about the same as in those months in 1932.

Wholesale prices of dressed lamb also reached a low point near the end of 1931 and have since fluctuated in a relatively narrow range above this low point. Retail prices of lamb, however, continued downward until April of this year. Some advance in both retail and wholesale prices occurred from May to August this year, but such prices in September were slightly below those of the corresponding month a year earlier.

#### PRODUCTION OUTLOOK

With wool prices substantially higher and slaughter-lamb prices somewhat higher than a year ago, the income of sheep growers from their 1933 production will be considerably above that from the 1932 production, thus improving the financial position of the industry. On the other hand, the western sheep industry is facing another winter of poor range and short feed, generally, with a possibility of another season of heavy death losses during the early months of 1934. This will make two bad drought years during the last three, and a succession of 4 or 5 years during little of which have range and feed conditions been normal. These adverse operating conditions, with greatly increased burden of feed and maintenance costs, and the low level of lamb and wool prices have been the principal factors causing the decrease in sheep numbers.

Although the heavy death losses of the last 2 years have tended to reduce the excessive number of old ewes (which had resulted from lack of outlet because of the low prices) western flocks on the average are over age. Relatively small numbers of ewe lambs have been retained for replacements since 1930. If larger numbers of ewe lambs are not kept back this year and next compared with 1931 and 1932, a further decrease in breeding ewes is certain. Whether such replacements can be kept or purchased this fall depends largely upon the attitude of the financial organizations that finance the western sheep industry. In general the attitude of these organizations is to maintain the industry on a good operating basis, but the probability of having to make large advances for feed again this winter and the possibility of another season of heavy losses may deter them from making advances for replacement purposes, even when these replacements seem highly desirable from the standpoint of good flock management. If relatively larger numbers of ewe lambs should be kept this year, the number of lambs to be marketed from the late lamb crop would be considerably reduced. This would cut down the number of feeder lambs marketed and would tend to adjust the number of those to the poor feed situation in the Corn Belt.

Sheep numbers in the United States are now on the downward trend, following a 9-year period, 1923-31, in which numbers increased nearly 17,000,000 head, or more than 45 percent. This year, 1933, is the second year of the downswing in the present production cycle. In two of the three previous cycles numbers declined over a period of 3 years, whereas in the other they continued downward for 6 years. In view of the present position of the sheep industry in the Western States as regards land ownership, range control, and grazing allot-



ments, it is highly improbable that the downward trend in numbers will be of long duration. Should wool prices continue at or near present levels through next year, and should feed and weather conditions for the next 2 years be favorable, it is not improbable that next year would be the last in the downward trend of numbers, with an upward tendency plainly evident by 1935.

Prices of wool have advanced much more than have lamb prices and are relatively high compared with those of other agricultural products and other raw materials. During the next year, improvements in general business conditions and in consumer buying power can be expected to be reflected in lamb prices more than in wool prices.

## WOOL

### DOMESTIC AND FOREIGN PRODUCTION

World wool production in 1933 will be considerably smaller than in 1932, and smaller than the relatively high production of other recent years. Decreases in wool production this year have been reported for several Southern Hemisphere countries and only a small increase in shorn-wool production has been estimated for the United States. Sheep numbers in most of the important sheep-producing countries now appear to be on a downward trend. This reduction in numbers will tend to result in a further decline in wool production in 1934, but this tendency may be altered to some extent by changes in weather and feed conditions.

Production of shorn wool in the United States for 1933 is estimated at 348,914,000 pounds, or about 1 percent more than the production in 1932, and 7 percent less than the record production of 1931. The small increase in production this year was largely the result of increased production in Texas, since production in other areas was not greatly different from that of 1932. In the native sheep States production was about the same as last year, little change occurring either in the number of sheep shorn or in the average weight per fleece. In the Western States, not including Texas, the number of sheep shorn was smaller than last year, but the decrease in numbers was largely offset by an increase in the average weight per fleece in these States. Last year fleece weights in the Western States were lighter than usual because of unfavorable weather and feed conditions. In Texas, wool production in 1933 was considerably larger than in 1932 because of a larger number of sheep shorn and a greater average weight of wool per sheep. The production of pulled wool in the United States in 1933 probably will be slightly smaller than the 67,000,000 pounds produced in 1932.

Unfavorable weather conditions in Australia and in South Africa, along with very low prices, are chiefly responsible for the reduction in wool production in the Southern Hemisphere countries. In addition to a smaller wool clip in 1933-34, the carry-over in those countries from the previous season is small, owing to unusually heavy exports. The Australian clip is estimated at 883,000,000 pounds compared with an average of 970,000,000 pounds for the 5 years, 1928-32. Last year, production in Australia was the largest on record and is estimated to have been 1,028,000,000 pounds. The clip in South Africa in 1933-34 is estimated at 280,000,000 pounds compared with 316,000,000 pounds in 1932-33, according to latest reports. For the 5-year period, 1928-32, production in that country averaged 305,000,000 pounds. Production in New Zealand, which has been declining since 1931, is provisionally estimated at 273,000,000 pounds for 1933-34, a decrease of 3 percent compared with 1932-33. In Argentina wool production in 1933-34 estimated at 348,000,000 pounds was about 5 percent larger than that of 1932-33. Because of increased consumption of wool in Argentina and the reduction in the carry-over during the last year, the quantity of wool available for export from Argentina in 1933-34 is smaller than in 1932-33.

Decreases in wool production in 1933 were also reported in France, Germany, Hungary and Greece; but an increase of 2 percent was indicated for the United Kingdom. The estimated production of wool for 1933 in 12 countries, which usually supply about two thirds of the world clip, excluding Russia and China, totaled 2,081,000,000 pounds, a reduction of 8 percent from last year.

World sheep numbers expanded greatly during the 5 years prior to 1932, but in most of the important sheep-producing countries numbers now appear to be on a downward trend. In many countries, however, weather and feed conditions are the most important factors affecting the level of sheep production.

After having reached a record total during 1931 and 1932 sheep numbers showed a decrease in most countries reporting thus far in 1933. In the United States the estimated decrease was 3 percent, and in South Africa it was 5 percent. A further reduction in numbers during the next year in several Southern Hemisphere countries is probable, because of the severe drought prevailing in those countries this year.

#### CONSUMPTION AND TRADE

Consumption of wool by United States mills increased rapidly from April to June, and since June has been maintained at a relatively high level. In the first 9 months of 1933 consumption of combing and clothing wool by manufacturers reporting to the Bureau of the Census, comprising a major portion of the industry, was about 40 percent greater than in the corresponding months in 1932. Consumption in the summer months of this year was greater than in any 3-month period since 1923. In view of the low level of consumer incomes, a continuation of this very high rate of activity over any considerable length of time was hardly to be expected, and some decline was evident in August and September. Consumption during the final quarter of the year, however, probably will be larger than that of a year earlier.

Developments in the wool industry in 1934 will be strongly influenced by developments in the general economic situation in the coming year. In view of the rapid increase in prices of wool and wool manufactures and considering the high level of activity in this industry in 1933, a substantial increase in consumer incomes will be necessary if activity in 1934 is to be maintained at a level fairly comparable with that of the last half of 1933.

Imports of combing and clothing wool into the United States in the first 9 months of 1933 were 31,464,000 pounds, compared with 14,055,000 pounds imported in the first 9 months of last year. Imports from July to September 1933 were well above average for that season of the year. Total imports were the first 9 months of the year, however, were below average as imports were very small from January to June. With United States wool consumption above average for the first 9 months of 1933 it seems probable that before the new clip is available larger imports will be necessary than for several years. United States production for 1933, including pulled wool, will probably be well below the estimated average consumption of 463,000,000 pounds annually for the 5 years 1928-32. Carry-over of old wool was reported to be well cleared in the early months of 1933.

Conditions in the wool industry have also improved in foreign countries in 1933, particularly in the United Kingdom. Unemployment in the woolen and worsted industry of the United Kingdom in recent months has been lower than at any time since the first half of 1929. Most of the European countries and Japan increased their imports of wool in the period so far reported for 1933 as compared with the corresponding period of 1932. Stocks of tops in commission combing establishments of continental Europe were above average at the end of August. Net imports of wool into the United Kingdom in the first 8 months of 1933 were about equal to the imports for the corresponding period of 1932. The increase in consumption probably has resulted in a considerable decline in stocks of wool in that country.

#### PRICES

Prices of wool advanced rapidly in the United States following the bank holidays in March and the suspension of the gold payments in April. This upward movement has slowed down considerably in recent months, but the rapid clearance of the clip in the Western States, the strength in foreign markets, and the high rate of manufacturing activity, have helped to maintain prices during periods of slow trading at Boston. To the middle of October the advance in wool prices has been well maintained despite the fact that declines in prices of other important commodities have occurred during the last 2 months. Prices of strictly combing territory wool, scoured basis, at Boston in October were 90 to 110 percent above the average price for February and were 125 to 165 percent higher than in July 1932, when the lowest points in many years were reached. These wools were 63.5 cents a pound, scoured basis, for 46s, and 83 cents for 64s, 70s, 80s, in late October compared with 30 cents and 44 cents, respectively, in February before the advance in prices got underway, and 24 cents and 36



cents, respectively, at the low point in 1932. Ohio wool and similar grease wools of strictly combing order were quoted at 33 to 41 cents a pound in late October compared with 16-19½ cents in February and 12-15 cents in July 1932. The United States average farm price as of October 15 was 23.6 cents per pound compared with 9.5 cents on that date in 1932 and the 5-year pre-war average (1909-14) of 17.8 cents.

Wool prices have also advanced considerably in foreign countries since the early months of 1933. Prices in British currency at the London wool sales in October were about 50 percent above the low point of early 1933, but because of the depreciation of the dollar since early 1933, the advance in prices of wool in foreign markets in terms of United States currency has been relatively greater. The advance in domestic wool prices, however, has been greater than the advance in foreign wool prices, in terms of United States currency, and in recent months the margin of domestic wool prices over foreign wool prices has widened sufficiently to permit imports of substantial quantities of nearly all grades of wool. Since materially larger imports than a year earlier are probable, before the 1934 domestic clip becomes available, the trend of domestic prices during the remainder of this year and in early 1934 will be influenced largely by the movements of prices in foreign countries and the fluctuation in the dollar in relation to the currencies in the principal exporting countries.

### MOHAIR

Although the mohair situation has improved greatly in many respects since February, stocks of mohair are still large as the result of accumulation during the last 3 years. These stocks at the end of 1933 will probably be at least as large as at the end of 1932. Until these stocks are materially reduced, mohair producers should not base their plans on the assumption that prices comparable with those paid for this year's fall clip will be maintained.

Improvement since February has been substantial. At that time the outlook for mohair producers seemed to be darker than that of other agricultural producers. Prices were ruinously low, prospective production was still at a high level, consumption was so greatly restricted that imports had ceased, and the prospects of disposing of the excessive stocks of domestic hair that had accumulated for 3 years seemed remote. By September the picture had changed markedly. Mohair had advanced in price more than any other farm product, mills were operating at capacity, with large unfilled orders, purchases of foreign hair were being made and distribution of finished goods on a large scale to the established uses and some new ones were being made. Stocks of mohair are still large, however, as a result of accumulation during the last 3 years, and on January 1 will probably be at least as large as a year earlier.

### SUPPLIES

The improvement in mohair prices has not been due to small supplies. The accumulation of hair in the hands of manufacturers at the beginning of 1933 was estimated at between 30,000,000 and 35,000,000 pounds, a quantity about equal to 2 years' needs at a relatively high rate of consumption. The estimate of 1933 production has not yet been made but reports from Texas indicate that the production in that State was probably 15 percent smaller in 1933 than in 1932. A similar reduction in the total clip would amount to 2,500,000 pounds, making for this year a total of about 14,000,000 pounds, compared with 16,495,000 pounds in 1932 and the record clip of 19,071,000 pounds in 1931. Even if mill consumption continues to the end of the year at the high level reached early in the fall, it is doubtful that consumption will be equal to this year's production, and the carry-over at the end of this year will probably exceed that of a year earlier.

### CONSUMPTION

Little specific information on mohair consumption is available. During the first quarter of 1933 consumption was at the very low levels of 1932, but during the second quarter it increased rapidly, and since May it is estimated to have been at a rate of about 17,000,000 pounds a year. If continued at this rate until the end of the year the total for this year would amount to 10,000,000 to 12,000,000 pounds. Not only has the manufacture of strictly mohair fabrics (automobile linings, furniture and car upholstery, and draperies) been on a large scale, but the woolen industry has used substantial quantities of mohair this year.

## PRICES

Mohair prices reached their lowest levels early in this year and the fall clip of 1932 sold at the lowest prices at which mohair has left the hands of producers. The average price per pound for adult hair to Texas producers last fall was around 8 cents and such hair in original bags at Boston was quoted at 10 to 12 cents. Early this year sorted Medium at Boston was quoted at 12 to 15 cents. Beginning in April prices began to advance and prices to Texas growers for adult spring were 12 to 13 cents. From May on, prices advanced rapidly and by October 1 sorted Medium grade hair in Boston was quoted at 45 to 52 cents and the prices for the fall Texas clip ranged from 36 to 45 cents, with the bulk at 40 to 42 cents. Thus the advance in prices to Texas growers from the fall of 1932 to the fall of 1933 was from 8 cents to 40 cents, or 400 percent.

This phenomenal price advance in the face of large stocks seems to have been due to a considerable extent to the location of the supplies. Practically all of the accumulation of mohair at the end of 1932 was in the hands of a limited number of manufacturers, with stocks in hands of dealers very small. The spring clip of 1933 was nearly all taken by these same manufacturers with little going into the hands of dealers, and the available supply on the market was very small. As wool consumption increased during the spring and summer, and wool manufacturers needed mohair for special uses, the supply for sale was limited and there was also keen competition from small mohair manufacturers. Prices advanced rapidly and when the fall Texas clip became available dealers were keen competitors for this supply and the price advanced steadily as the sale season advanced, with better than 45 cents reported near the close. Prices paid in Texas were above the Boston equivalent, early in September, but Boston prices were soon advanced in line with the Texas prices.

## FOREIGN SITUATION

Production of mohair in Turkey and South Africa has decreased more sharply than in the United States, these three countries producing practically the entire world supply. This year's clip in Turkey is forecast at about 5,500,000 pounds, compared with over 9,000,000 pounds in 1932. The South Africa clip is estimated at about 8,250,000 pounds this year, compared with 9,000,000 pounds last year.

Stocks of mohair carried over from the previous year in these two countries were also much reduced; for Turkey the stocks on April 30 this year were 5,500,000 pounds, compared with 8,800,000 a year earlier; for South Africa the stocks on June 30 were about 7,000,000 pounds, 4,000,000 of which were reported as sold, compared with 8,000,000 a year earlier. The greater part of the large stock of mohair accumulated in Turkey in 1931 and 1932 was sold to Russia, where it was to be used presumably for blanket and floor-covering manufacture, and much of the accumulated stocks in South Africa went to Great Britain. Although little of the old stocks in either country came to the United States, it is reported that considerable of this year's clip in Turkey has been bought for shipment here.

The decrease in mohair production this year in both Turkey and South Africa resulted largely from the decreased number of goats. Some of this decrease may have resulted from poorer care, but much of it came from the very heavy slaughter of goats for food when the price of mohair went so low that it did not pay to keep goats for hair production. The improved prices and better prospects for mohair will probably stop any further depletion of flocks by slaughter, but it will require several years of improved prices before any considerable tendency for increased mohair production will develop.

## PRODUCTION OUTLOOK

Mohair production declined this year because of heavy losses of both goats and kids in Texas this spring. These losses were due to the weather and to the lack of usual care because of the low prices for mohair and goats. With mohair prices back near predepression levels and with the increased returns from this year's fall clip, producers will be able and willing to give their flocks better care. However, the feed situation in the main sheep-and-goat area of Texas in October this year was the poorest in some years and a severe winter and spring may bring heavy losses. The tendency in Texas, if prices remain



at about present levels, will be to expand numbers at least to the 1931 number. But it seems apparent that only a continued expanding use of mohair fabrics will make possible a reduction of present stocks and until these are reduced to about a year's normal supply they may become a factor weakening to price maintenance. During the last 3 years kid hair and the finer grades of mohair have been in good demand while the coarser grades were almost unsalable, and most of the present stock of mohair in this country is of the coarser type.

## HORSES AND MULES

Developments during the last 2 years indicate the beginning of a shortage in the supply of work stock, which may eventually reach serious proportions. The time when this shortage will be greatest must necessarily depend somewhat upon programs of acreage reduction, but present indications are that with the proposed programs in effect, the probability of overbreeding will be remote. Even should any material increase in the purchasing power of farmers result in an increase in the use of mechanical power, the future need for work stock to replace an increasing proportion of old animals probably will be reflected in a growing demand for good animals for several years.

### SUPPLIES

Numbers of horses and mules both on farms and not on farms have decreased markedly for several years. On January 1, 1933, horses on farms numbered 12,163,000, which is only 57 percent of the number reported on January 1, 1918, when the largest number on record was reported. On January 1, 1933, the number of mules on farms was 4,981,000, which was 84 percent of the number on farms in 1925, when mule numbers were greatest. The decreases in horses and mules not on farms (in cities, towns, and elsewhere) since 1920 have been relatively much larger than the decreases on farms. Estimates based upon changes in selected counties and cities, shown by enumerations made by the Census Bureau for 1920 and 1930, indicate that the number of horses not on farms in 1930 was about 300,000 head and of mules about 75,000 head. In 1920 the census enumerated 1,705,000 horses and 378,000 mules, not on farms, and in 1910, 3,183,000 horses and 270,000 mules. The percentage decreases between 1920 and 1930 amount to about 80 for both horses and mules. With such a small number of horses and mules not on farms, farmers can no longer expect to add to their supply of work stock with animals released from work in the cities.

It is evident that the present numbers of work horses and mules cannot be maintained, because the number of animals reaching working age is not large enough to replace animals of working age that die. Furthermore, the efficiency of work horses is declining because of increasing average age. The fact that since 1929, prices of horses and mules have declined relatively less than have those of any other important agricultural product, indicates that a shortage of horses and mules was developing. From September 15, 1929, to September 15, 1932, farm prices of horses declined 28 percent and farm prices of mules declined 31 percent. At the same time prices of all farm products declined 58 percent. On September 15, 1933, the average farm price of horses was \$69 per head, and of mules \$77 per head, which, in both cases, was about 17 percent greater than the average price a year earlier. These increases were approximately the same as the percentage increase in the average price of all farm products.

### DEMAND

The relatively high cost of tractors, gasoline, and oil as compared with costs of feed that farmers themselves produce is apparently causing many farmers on the small and moderate-sized farms to again look to horses for their source of power. Consequently, prices of farm horses at some markets were as much as \$25 a head higher in October 1933 than they were a year earlier. Heavy draft horses, weighing 1,800 pounds and up, have but a limited outlet. The well-broken handy-weight horses, thick and blocky in type and of good quality, weighing from 1,400 to 1,600 pounds, are in good general demand, with prices at midwestern markets ranging from \$100 to \$150 per head, depending on individual merit.

The tone of the mule markets during September and early October of 1933 was considerably more optimistic than it has been for several years. Receipts

of mules at public stockyards during the first 8 months of 1933 were about 45 percent larger than those for the corresponding period of 1932. During the spring and fall of 1933 there was a broad demand, and prices of September were back to those of the high time of the year in February and March, and about \$5 to \$15 a head higher than those in September 1932. There has been more active interest at markets in mules to be used in the South than at any time in the last 5 years. Such mules in early October 1933 were bringing as much as \$15 a head more than similar mules were bringing a year earlier.

For several years the number of colts raised on farms has not been sufficient to maintain the present number of work horses and mules, as indicated by figures for the last 3 census years. In 1920, about 12.8 percent of the horses on farms were less than 2 years of age. By 1925 the percentage had dropped to 6.7, and in 1930 it had increased slightly to about 7 percent. On the basis of the 1930 census figures the number of colts produced in 1928 and 1929 was only about one half of the number needed to maintain a constant horse population equal to that of 1930. In 1920 about 14.4 percent of all mules on farms were under 2 years old, in 1925 only 6.6 percent were under 2 years old, and in 1930 only about 3.1 percent were under 2 years old. The rate of mule-colt production in 1928 and 1929 was at best only about one third enough to maintain the mule population of 1930. Since 1930, horse and mule numbers have continued to decline; breeding of mares has increased somewhat but is not yet sufficient to maintain the present numbers of horses and mules.

#### GENERAL PROSPECTS

The decreases in the numbers of horses and mules due to the declining number of colts raised each year have been accompanied by increases in the average ages of all horses and mules. Reports from crop reporters of the Department of Agriculture show that between 1927 and 1933 the average age of horses on their farms increased from 9.6 years to 10.8 years and of mules from 8.5 years to 11.2 years. Computations made from estimates of the number of horse and mule colts raised each year from 1918 to 1932 indicate that at the beginning of 1933 about 36 percent of all horses and 51 percent of all mules on farms were over 15 years of age. Hence, animal power on farms has decreased not only from a decline in the number of units but also from a depreciation in the units remaining.

The number of work horses and mules probably will continue to decline for several years. This decline can be checked only if more extensive breeding for both horse and mule colts is soon resumed. Available reports from a number of States for the enrollment season of 1933 indicate that there has been a general increase over the previous year in stallion and jack enrollment. There is probably more interest in breeding for horse and mule colts at this time than has been evident for a great many years. This interest is indicated by the fact that good 2- and 3-year-old fillies are bringing from \$10 to \$15 more per head than geldings of the same age, type, and quality. An increased interest is also shown for mares, colts, and young animals up to 4 years old. There is, however, no indication at this time that there is any likelihood of overbreeding. A scarcity of good sires and a shortage of young work mares suitable for breeding purposes probably mean that even with a strong price incentive to increase breeding, progress will be slow for some years. It is generally felt that if breeding were expanded very materially at this time there would be little likelihood of stopping the decrease in horse and mule numbers for several years, because of the relatively larger numbers of old animals.

The horse-and-mule outlook may be modified somewhat by the future course of mechanization of agriculture, and by the future policy of the Agricultural Adjustment Administration with respect to acreage reduction. According to the census, the number of tractors on farms increased 274 percent from 1920 to 1930, to a total of about 920,000 in the latter year. Truck numbers on farms increased about 547 percent, to a total of 900,385 in 1930. In 1920 the number of horses and mules on farms was more than ample to furnish all needed motive power on farms. At the beginning of 1933 the number of horses and mules alone would not have been sufficient to furnish the motive power for the farm operations of that year; neither would it have been sufficient to furnish the motive power if the acreages of crops in the United States were reduced in line with present plans of acreage control.

The future need for more or less work stock will depend upon whether the use of mechanical power increases or decreases, and upon the acreage of crops



grown. During the last 2 years an apparent shortage in animal power on farms in many States was due to some extent to the financial situation in agriculture which has made it difficult for farmers to buy replacements, repairs, and fuel for motor machinery. This situation forced the farmer to depend more upon animal power for farm work and has had some influence upon the demand for horses and mules. Should crop acreage be reduced materially during the next few years, such reduction will result in the need for less motive power on farms than at present. It is improbable, however, that over a period of 2 or 3 years, such reduced need for power would more than offset the reduction in power available on farms, because of declining numbers of horses and mules, and because of the tendency of farmers to purchase little mechanical power equipment in recent years. There is no reason to suppose that, from the long-time standpoint, the use of tractors and trucks for farm work has reached its peak. Eventually, some expansion in the use of these machines may be necessary merely to offset the rapidly decreasing numbers of work animals, since under the most favorable conditions it will be some time before this decrease can be halted. It is possible, of course, that new developments in the field of mechanical power may be an important factor in establishing the limits of any upward movement in the demand for work stock.

It should be remembered that horses are largely a byproduct of farming. Good breeding mares can be used as a source of motive power and at the same time produce colts that will maintain the power plant. Many farms are well suited for the economical production of a few colts to replace worn-out work animals and to be sold. This is particularly true in the areas in which there is an abundance of cheap roughage. It seems probable that farmers will not be able to replace their present work stock a few years from now at prices now prevailing, and many who expect to continue to use animal power can well afford at this time to lay plans for their future supply of work stock. Mares that can work and produce colts form the economical basis for such plans. If the mares are young, the farmer will be in better position to expand colt raising as the demand for colts increases.

### DAIRY PRODUCTS

Returns from dairying for several years have been relatively favorable as compared with returns from most other types of farming, and this has been true in previous periods of falling prices. During the next year or two, however, the comparative situation seems likely to be much less favorable to dairy producers. Evidences of weakness in the present dairy situation are: Record stocks of dairy products, a lowered rate of consumption, a high rate of production, record numbers of cows being milked, and low prices of meat-producing livestock that tend to make it relatively more profitable to use feed for dairy production than for meat production.

Under these conditions the apparent strength in prices of dairy products is due to the price-supporting measures being applied. Improvement in general purchasing power may later supplement the effect of these measures, but there is little prospect for further considerable rise in prices of dairy products within the next few months, except as a result of a distinct rise in the general price level. Dairy prices have lagged somewhat behind those of other farm products in previous recovery periods. It is probable they will now follow this usual course. Feed costs are expected to continue relatively high in comparison with prices of dairy products during the current feeding period.

Although conditions abroad indicate no pressure of foreign supplies on our markets during the coming winter season, they indicate but slight prospect of profitable foreign outlets.

### FARM PRODUCTION

Except for seasonal fluctuations, the number of milk cows on farms has increased continuously since 1928. On June 1, 1933, the number of milk cows on farms was about 2.3 percent above the number a year earlier and about 14 percent above the number of June 1928. The increase during these 5 years was due to various causes, including the large supply of labor on farms, the low price of feed grains, and the relatively favorable prices of dairy products as compared with prices of other farm products.

The rapid rate of increase has also been due in large part to one of the periodic increases in cattle numbers that have occurred in this country about

every 15 years in the last half century. The estimates of numbers of cattle on farms on January 1 show increases each year from 1912 to 1918, nearly continuous yearly reductions until 1928, and increases each year since then. Total cattle numbers have now reached so high a point that the rate of marketing has increased and the turning point in total cattle numbers may be reached within about 2 years.

Since last spring there has been a sharp increase in the number of cows marketed, due apparently to the accumulating surplus supply of cattle, to the shortage and rapidly increasing cost of feed, poor pastures, and the tendency of the prices of dairy products to rise less rapidly than the prices of many other farm products. The number of cows and heifers slaughtered under Federal inspection during May, June, July, and August totaled 1,342,000 compared with 1,010,000 in those months last year, and an average of 1,112,000 in those months during the preceding 3 years. Part of this increase in cow marketings appears to have been due to the closer culling of dairy herds. Calf slaughter has also been heavy for several months in succession. This heavy marketing of cattle and calves has probably been somewhat stimulated by the drought, but it was well under way before the drought conditions developed. Current June reports also showed a reduction of about 3 percent in the number of dairy heifers freshening during the current year and a slightly smaller proportion of spring-born heifer calves being raised for milk cows than a year ago. The price of milk cows, which for several years was relatively high in comparison with feed costs, on October 1, 1933, was no higher than a year earlier, while feed-grain prices had doubled. This will tend further to reduce the number of dairy heifers raised.

These figures, by themselves, would seem to indicate a decided slowing up in the rate at which dairy herds are increasing, but the situation is now complicated by the indications that farmers in the western Corn Belt are milking some cows that were formerly kept only for beef production. This would be a natural adjustment in that area, for during the last 3 months the local price of butterfat has been averaging one fourth higher than in the same months of last year, while beef cattle have been bringing one fifth less. In much of this area, the income from crop production this season has been seriously reduced by poor crops, and on many farms in the drought areas sales of butterfat are at present almost the only source of income. So long as this situation continues it is to be expected that farmers in the beef-producing sections, and particularly in the areas affected by drought, will dispose of more of their calves than usual and take advantage of every opportunity to increase the quantity of butterfat sold by milking more of the cows. This largely explains the recent heavy increases over last year in creamery-butter production in the Dakotas, Kansas, Oklahoma, and Texas, and for the country as a whole the shift of cows from a strictly beef to a milking classification may largely offset the closer culling of dairy herds being practiced in most market-milk areas. This complicates the problem facing the farmers in strictly dairy areas and makes it difficult to forecast the trend of numbers of milk cows.

Excluding nearly 4,000,000 cows of beef or dual-purpose type that are regularly milked and are included in the estimates of milk cows, there are in the country as a whole about 10,000,000 beef cows. The majority of these cows are in large herds in the range areas but several million are on farms in the Corn Belt and elsewhere. Some of these cows have been milked in past years and about a fifth are with their first calves. There are, therefore, enough beef cows available to permit the total number of cows milked to be increased several percent in a year if prices of dairy products are high enough to make the change worth while. However, excluding this beef stock, it is still obvious that the number of milk cows is abnormally high and can hardly be quickly reduced without greatly increasing the number of cows marketed and further depressing the price for that class of cattle. For this reason the potential producing capacity of the dairy herds will remain high for another year and probably for at least 2 years unless measures are taken to help farmers dispose of the surplus cows.

Since 1929, the increase in the quantity of milk produced has not been at all proportional to the increased number of cows milked. According to current estimates, production per cow, after increasing steadily from around 4,100 pounds per year in 1924 to a peak of 4,582 pounds in 1929, declined to 4,510 pounds in 1930, 4,461 pounds in 1931, and to 4,302 pounds in 1932. During the



first 6 months of 1933 milk production per cow averaged 2 to 3 percent below the same months in 1932.

During the summer and early fall of 1933, however, the higher prices paid for butterfat temporarily increased milk production per cow and markedly increased butterfat deliveries compared with deliveries at the same season last year. This increase appears to have been due to a reduction in the quantity of butter made on farms, to increased deliveries of butterfat as compared with milk, to the increase in the number of milk cows, and to a temporary increase in the production of milk per cow. Part of this increase in the output per cow may have been due to the culling out of dry cows and low producers, delayed drying off of the cows, or to shifts in freshening dates, but detailed reports for several thousand farms show that on August 1, earlier weaning of the calves, due to the higher price of butterfat and lower prices of veals and beef, accounted for about a 1 percent increase in milk production. Partially as a result of this change, the price of fat veals soon rose sharply in comparison with prices of most other calves, so the tendency toward early weaning was more or less temporary. It is, therefore, important chiefly in showing the rapidity with which dairy production can be increased even under adverse pasture and feed conditions when price conditions make an increase worth while.

The shortage of grain and hay production in 1933 will tend to reduce milk production during the current feeding period. Present estimates indicate that some 82,000,000 tons of corn, oats, barley, and grain sorghums have been harvested this season, compared with 110,000,000 tons last year, 97,500,000 tons in 1931, 87,000,000 tons in 1930, and an average of 103,600,000 tons during the preceding 10 years. Even allowing for farm stocks carried over from previous crops the total feed-grain supply is about 9 percent below the average of the last 5 years. Hay supplies are short but are not so seriously short as seemed probable a few months ago. The more liberal rainfall in August and September increased the yield of late cuttings and late varieties of hay and total hay production is estimated as 76,400,000 tons compared with about 82,000,000 tons produced last year. As there is somewhat more old hay on hand the only areas threatened with an acute shortage for the coming feeding period are the areas that were most seriously affected by the drought this season, chiefly North Dakota, South Dakota, and portions of the Southwest.

Supplies of byproduct feeds for the fall and winter of 1933-34 are slightly below those for the corresponding period last season. Prices are on an average about 50 percent above a year ago, reflecting the sharply higher grain prices and the short supplies of feed grains this season. The index of feed prices on October 17 was 62.2 percent of the 1926 level compared with 41.7 a year ago.

Allowing for recent heavy marketings of livestock, the total supply of feed and hay seems slightly shorter in proportion to livestock numbers than in the drought year of 1930. The extent to which milk cows will be affected by the necessity of reducing the quantity of grain fed to livestock depends largely on relative prices. This fall, the heavy marketing of cattle and hogs is tending to depress the price of meat animals as compared with the price of dairy products, so that the feed of milk cows may not be reduced as much as is that of other classes of livestock, and where the finances of farmers permit, it is probable that more of the grain will be ground than in 1932, and that the rations will be more carefully balanced.

The large number of milk cows on farms, the tendencies toward milking more beef cows and toward earlier weaning, and the ample supply of labor all favor a heavy increase in the output of dairy products if prices are materially increased with no control of production. On the other hand in adjustment to recent prices, farmers were feeding much less grain per cow on October 1 than would ordinarily be fed at that season with pastures as poor as they were. If this light feeding continues after the close of the pasture season it will mean a further decrease in the production per cow as compared with the same months in previous years.

#### SUPPLIES OF MANUFACTURED DAIRY PRODUCTS

Converted to a milk-equivalent basis, the production of the most important manufactured dairy products during the first 9 months of 1933 is estimated to have been about 4 percent larger than during the same months in 1932. The production of creamery butter was approximately 3 percent greater, cheese 7 per-

cent, and evaporated milk 14 percent, but condensed milk was 17 percent less. Information from trade sources indicates that the commercial production of ice cream which has been on the decline since 1929 continued this trend the early part of 1933. The decrease in the production of ice cream and condensed milk, however, was not sufficient to offset the liberal increase in the production of butter, cheese, and evaporated milk.

The manufacture of creamery butter the first few months of 1933 lagged behind the early part of 1932, but during June, July, August, and September very substantial gains over the output of the same months in the preceding year were recorded. These increases were particularly heavy throughout the Middle West especially in such important butter-producing States as Minnesota and Iowa, as well as in a number of areas where most of the milk produced is consumed in its fluid form. Several causes may be given for this large increase, such as the relatively high prices paid for butterfat since early summer causing producers in the general farming areas who were especially in need of ready cash to use less milk at home, make less farm butter, and to sell every pound of butterfat available. In the fluid-milk-producing sections, the milk supplies of late summer were considerably in excess of market requirements, and in New York State particularly, most of the surplus was used in making creamery butter. In some sections, too, crops damaged too much by the drought to produce marketable grain were used for pasture, and tended to overcome some of the effects of the short grass pastures.

With the exception of April, cheese production was above that of 1932 throughout the entire 9-month period. As in butter, very substantial increases over a year earlier were reported for June, July, August, and September, with by far the major proportion of the increases being accounted for in Wisconsin. Cheese production in this latter State was larger in every month except February. In 1932 prices paid in Wisconsin were slightly higher for milk used for making butter than for cheese, and considerable milk normally going to cheese factories was diverted to creameries. This year the price relation was mostly reversed, and milk producers last year delivering to creameries were once more delivering to cheese factories. This resulted in a good-sized increase in the production of cheese in that State, but caused a decrease in butter production.

The production of evaporated milk so far for 1933 has been consistently larger month by month than in 1932. On the other hand the production of condensed milk for each month has been smaller than a year ago.

The production of margarine during the period January to August, inclusive, this year was 152,391,000 pounds, an increase of 29,000,000 pounds, or 23 percent above production during the corresponding period of 1932, but a decrease of 20,500,000 pounds, or 12 percent, under the 5-year average (1928-32) production during these same months.

The storage situation with respect to dairy products has become of increasing importance during 1933. Early in the year stocks of butter and cheese in cold storage and condensed and evaporated milk in the hands of manufacturers were relatively low, being 16 percent less on January 1, in terms of milk equivalents, than a year earlier. There was the usual seasonal reduction up to May 1 of butter, cheese, and condensed milk, and an exceptionally large reduction during this period of evaporated milk. Stocks of the latter reached an all-time low record on May 1, this due to the fact that during the first half of 1933 an unusually large volume of evaporated milk moved into the hands of wholesale grocers and other distributors, as was shown by June 30 inventories. The new storing season opened with stocks of butter and cheese also less than average, but there was a heavy early movement into storage, and by July 1 stocks of butter amounting to 106,378,000 pounds represented not only an excess over a year earlier, amounting to 22,000,000 pounds, but also a surplus over the July 1 5-year average of approximately 18,000,000 pounds. American cheese stocks on the same date totaling 67,456,000 pounds were 13,500,000 pounds heavier than on July 1, 1932, and 4,500,000 pounds above the July 1 5-year average. Heavy into-storage movements occurred during July and August, with the result that on September 1 there were larger quantities of butter and American cheese in cold storage than ever before recorded, butter stocks amounting to 175,476,000 pounds and American cheese to 94,394,000 pounds. Butter stocks on October 1 were 174,857,000 pounds, compared with 89,490,000 pounds a year earlier and an October 1 5-year average of 117,549,000 pounds. American cheese continued to increase during September and a new all-time high record was reached on October 1 when stocks totaled 99,369,000 pounds.



as compared with 68,555,000 pounds on October 1, 1932, and a 5-year average of 80,838,000 pounds. These October 1, 1933, figures include Government-owned stocks of butter and cheese purchased for relief purposes. Evaporated milk stocks of butter and cheese purchased for relief purposes. Evaporated milk beginning in July and since then the trade output of this product declined materially, causing increasing quantities to back up in manufacturers' hands, and on October 1 stocks of 208,000,000 pounds were 18 percent heavier than a year earlier. In terms of milk equivalent, stocks of butter, cheese, condensed and evaporated milk on October 1 were 61 percent heavier than on October 1, 1932. This increase is equal to about 2 percent of total annual milk production.

#### TRADE OUTPUT OF DAIRY PRODUCTS

During the first 9 months of 1933 the apparent consumption of creamery butter was 49,000,000 pounds, or 3.8 percent less than during the corresponding period of 1932; cheese decreased 15,000,000 pounds, or 3.7 percent; and condensed milk decreased 22,000,000 pounds, or 13.2 percent. The net decrease of all the above products combined on a milk equivalent basis was 2.7 percent, while production increased 4.2 percent during this period. During the first 8 months of 1933, the index of factory pay rolls averaged 6 percent less than in the same months of 1932, and consumer expenditures for butter were 4 percent less, while consumer expenditures for cheese were 8 percent less. In the case of evaporated milk, there was relatively little change in consumer expenditures, the increase in trade output being offset by lower prices. It is not possible to make similar estimates for fluid milk and cream, but reports from several of the leading fluid-milk markets indicate that market receipts during the first 8 months of 1933 were less than in 1932, while retail prices were also less, indicating that there was a further decline in consumer expenditures for milk. In the last few months, however, pay rolls have shown an increase over corresponding months in 1932. If this increase is maintained, it will increase the demand for dairy products.

#### FOREIGN MARKETS

Conditions affecting the marketing of butter in Europe during the last 2 years have been unfavorable particularly to European producers in surplus-producing countries. A marked check in the volume of exportation has been apparent in 1932 and to date, reflecting some check, although less marked, in European production. At the same time production and consumption of margarine in Europe have fallen off considerably. European butter-exporting countries provided a combined export in 1932 that was smaller than in 1931 by about 14 percent while Southern Hemisphere exports were 10 percent larger.

Foreign market prices of dairy products, especially butter, have been affected recently and must continue indefinitely to be affected by the varied forms of trade restrictions so generally in effect, as well as by actual production trends. The net effect of these restrictions is to narrow the market for world supplies and to concentrate them abnormally upon the relatively free markets, notably in Great Britain. The relatively low prices prevailing in important foreign butter markets have certainly been depressed by trade conditions at least as significantly as by the increase in total foreign supplies which, outside of Australia and New Zealand, have already been notably checked.

The net United States importation of dairy products in the year ended June 30, 1933, amounting to the equivalent of 441,000,000 pounds of milk, exceeded by about 20 percent the net exportation of 370,000,000 pounds in 1931-32. Both imports and exports continued to fall off, but the greater decline was in exports. Some decline in imports of cheese and further marked falling off in our exports of concentrated milk have been chiefly responsible for the decline in the total volume of our foreign trade in dairy products. The small net importation of butter in the previous fiscal year gave way in 1932-33 to a very slight net exportation. The total exports of 1,386,000 pounds of butter were widely scattered to some 50 different countries. Whenever in recent years our butter exports have exceeded 5,000,000 or 6,000,000 pounds, the excess over this volume has gone to Europe. The New York price of 92-score butter on October 26 was the same as the London prices on Danish and 4 cents above finest New Zealand at prevailing rates of exchange.

Any rise in domestic butter prices resulting from a decline in the value of the dollar in relation to foreign currencies is not in itself to be expected to attract imports. On the contrary, since a given domestic price would thereby equal less money in terms of foreign currency, the tendency would be to handicap foreign exporters seeking an outlet in the United States. The effect upon the tariff rate, however, is to lower the specific rate in terms of foreign currencies and thereby make the tariff protection less effective. Aside from strictly monetary influences, conditions likely to continue to affect important outside markets indicate somewhat less pressure of foreign supplies on United States markets during the next winter season.

#### PRICES

After 3 years of declining prices, farm prices of dairy products reached a low in March 1933 of 59 percent of the 1910-14 average. At that time the farm price of butterfat was 15.1 cents per pound and the farm price of milk sold at wholesale \$1.10 per 100 pounds. With the suspension of gold payments in April and the rise in the general price level and the improvement in business, prices of dairy products increased. From March to September the farm price of butterfat increased 29 percent and the farm price of milk 34 percent. In some fluid-milk markets milk-control boards have raised prices.

The rise in the general level of prices in 1933 tended to correct some of the maladjustments in price relationships brought about by the general decline in prices during the period 1930-32. During the period of deflation prices of dairy products did not decline so rapidly as the prices of many other farm products. During the 3 years, 1930-32, prices of butterfat were relatively high as compared with feed grains. In 1933, however, prices of grains increased more rapidly than prices of butterfat. In the period July to September 1933 a pound of butterfat was equivalent to the price of 22 pounds of feed grains at farm prices, compared with 33 pounds during the same period of 1932, 30 pounds for the 5 years 1925-29, and 22 pounds in the period 1910-14. This change in the relationship between butterfat and grain prices in the last 6 months has been one of the most important developments in the dairy-price situation. The present relationship between grain and butterfat prices, if continued for a relatively long period, will tend to curtail production.

During 1933 prices of butterfat have increased more than prices of livestock, so that even though butterfat prices are low in relation to grain, they are relatively high as compared with veal, beef cattle, and hogs.

From 1929 to 1932 the farm price of dairy products declined 50 percent, while the retail price of dairy products declined only one third. Prices paid producers for dairy products were relatively low as compared with retail prices. With the rise in prices in 1933 this maladjustment has been corrected to some extent. From March to August retail prices of dairy products rose 9 percent, while prices paid producers for dairy products increased 22 percent.

The large current production of dairy products and large commercial stocks on hand are having a depressing influence on prices. This situation, combined with the short crops of feed grains, indicates the probability of relatively low prices of butterfat compared with feed grains during the coming winter. The longer-time outlook for a rise in the general price level and improvement in business indicates improvement in dairy prices. However, with a rise in the general price level it is probable that prices of dairy products as a group will not rise so rapidly as prices of other farm products. The marketing agreements developed under the Agricultural Adjustment Act and milk-control boards in several States probably provide the machinery whereby adjustments of fluid-milk prices may be made more quickly than ordinarily would occur.

Under the Agricultural Adjustment Administration activity directed toward the raising of prices to producers for milk and its products has been through marketing agreements. Announcement has recently been made of the formation of the Dairy Marketing Corporation, which is an industry-sponsored organization set up as a clearing house to handle surplus dairy products in cooperation with the Secretary of Agriculture. Butter secured by the corporation will be purchased by the Secretary of Agriculture, and will in turn be distributed to needy unemployed through Federal relief agencies. Information is not yet available regarding the quantities to be purchased nor the prices to be paid. Agreements covering the marketing of fluid milk in practically all of the major milk sheds have either been approved or are in process of being



prepared. Marketing agreements for evaporated milk and dried skim milk are in effect, and agreements are being developed for butter, cheese, and ice cream.

The price policy in fluid-milk areas is that of stabilizing prices for milk for fluid use at levels which, while above freely competitive prices, are not expected to result in increases in total production within such fluid-milk areas. Prices for quantities of milk above those used for fluid purposes, including an allowance for daily and seasonal variation, are generally competitive prices.

The agreements covering the marketing of fluid milk in the Northeastern States generally set up production areas within which individual dairymen are allotted (1) specified quantities of milk which may be sold for fluid purposes, at specified prices, and (2) specified quantities of milk which may be sold for manufacture into fluid cream at a lower price. Additional milk sold is at a third specified price still lower than either of the first two, and is milk used for the manufacture of such products as butter, cheese, evaporated milk, and ice cream.

Prices to producers for milk used for consumption as milk, in the agreements thus far presented, have generally been at levels little above prevailing prices, though to the extent that these specified prices are minimum prices, most such prices will actually represent increases over previous prices. Prices to producers for milk used for consumption as cream, for the most part are based on butter quotations, with a differential for quality. Prices to producers for milk used for manufactured dairy products tend to be on a butterfat basis and are at levels about equal to those paid producers in the surplus butterfat-producing areas.

In the Middle Western States the agreements are of the same general nature, but provide in most cases for narrower differentials between the prices of milk for the various uses. All prices are based more directly on values established by prices of butter and other manufactured products. In the far Western States, the agreements are more nearly on a basis similar to that in the Northeastern States.

Agreements regarding manufactured products are directed primarily at the elimination of destructive competition and other practices tending to disrupt price structures. Price results of these agreements will tend to be less apparent than of agreements for fluid milk.

A proclamation has been issued under the Agricultural Adjustment Act stating that rental or benefit payments are to be made with respect to milk and its products. A processing tax on the first domestic processing will therefore be in effect with respect to milk and its products from the beginning of the next marketing year, which period has not yet been determined.

The Agricultural Adjustment Administration has announced that a part of the funds to be derived from a processing tax are to be used for the purchase of surplus dairy products, a part or all of such purchased products to be used for relief purposes or in channels of trade that are not competitive. The removal program apparently involves the purchase of certain additional quantities of dairy products by the Federal Relief Corporation.

In connection with the foregoing, public hearings have been held on the rate of the tax to be levied on milk and its products and on competing products. These hearings were called because it is believed that a processing tax on milk and its products based on the difference between the current average farm prices paid for them and the fair exchange of parity value might retard domestic consumption, and result in the accumulation of surplus stocks, or in the depression of the farm price of the commodity. The tax rate on milk and its products and on competing products could not, therefore, be legally determined until after a public hearing.

## POULTRY AND EGGS

The number of hens and pullets of laying age on farms October 1, 1933, was about 1 percent smaller than in 1932, and a production of eggs this fall and winter somewhat smaller than last season appears probable, because of late maturity of pullets and less abundant supplies of feed.

It is too early to anticipate the production of eggs in the spring of 1934 with any assurance, but with the total numbers of potential layers, including pullets not yet of laying age, about 1 percent greater than last year, no very material change in the spring production of 1934 from that of 1933 appears probable,

since the rate of layings during the peak months of production varies little from year to year.

The number of chickens that will be hatched next spring will depend mainly upon the prices received for poultry products, upon their relation to feed costs during the winter and spring, and upon the outlook at hatching time. Uncertainties are so many this fall that poultrymen cannot decide definitely now on their spring-hatching program.

Improvement in prices of chickens above the normal seasonal trends during the fall and winter of 1933-34 appears improbable because of heavy stocks of chickens, and a crop of turkeys almost as large as last year. Assuming that decreases in slaughter of hogs and sheep will be balanced by increased slaughter of cattle, any competition from the supply of these meats will probably be about as great as last winter. The anticipated improved demand for poultry and eggs as well as for meats that would result from further employment and improved buying power of consumers is a helpful factor in the poultry-marketing situation. The net effect of these various influences, and of future developments in the Government marketing and relief policies affecting poultry, cannot be anticipated at this time.

Although the number of chickens hatched in 1933 was larger than in 1932 very heavy marketings reduced the number of all chickens in farm flocks so that on October 1 it was less than 1 percent above numbers on that date in 1932. Although the heavy marketings resulted in much larger stocks of poultry in cold storage than last year and slightly larger than the 5-year average for October, farm marketings of chickens during the remainder of the fall and winter appear likely to be about the same as those of last year.

The very favorable relation during the fall and winter of 1932-33 of prices of eggs and chickens to prices of feed, compared with their pre-war relation, led to increased hatchings this year. The decided spring rise in feed prices, with egg and chicken prices at their lowest levels in more than a generation, brought about an unfavorable relationship between prices of poultry products and prices of feed and was followed by heavy marketings of hens and broilers and smaller production of eggs. The more-than-seasonal rise in egg prices during the summer, with some decline in feed prices after July, had brought farm egg prices by October 15 back to slightly better than their post-war and distinctly above pre-war relation to feed prices. Although chicken prices continued their seasonal decline their relation to feed prices on October 15 was also above the pre-war relation, but considerably below their average relation to feed prices for the post-war period. If this improvement in the relationship of egg and chicken prices to feed prices should be maintained or improved it will assist to maintain the production of eggs this winter.

#### NUMBER OF LAYERS, FALL OF 1933

The total number of hens and pullets of all ages on hand in farm flocks on October 1 was only about 1 percent greater in 1933 than in 1932. In the North Central States, which lead in poultry production, the increase was a little over 1 percent; in the far Western States the increase was about 9 percent. The South Atlantic States showed a 6-percent decrease. Changes elsewhere were fractional.

The number of mature hens on hand was about 0.6 percent smaller than in 1932. The number of pullets hatched in 1933 that had reached laying age on October 1 was about 2 percent smaller than the number of such pullets a year earlier. The number of pullets not yet of laying age was about 5 percent greater and the number of all pullets about 2.4 percent greater than last year.

Although prices of poultry products have been low most of the time during the last 2 years, prices of feed for poultry have been relatively much lower. Under these conditions, producers in the Central and Eastern States who were favorably located with reference to feed supplies and markets, enjoyed a greater advantage than western producers less favorably located. West-coast producers, having adjusted themselves so far as possible to the new conditions, by forced liquidation in some cases and severe loss to former operators, would now be in position to benefit by any material rise in egg prices, inasmuch as fixed charges would absorb less of the rising prices. The number of layers reported for that section in October shows a material increase this year. The relatively very favorable returns to poultrymen preceding the hatching season of 1933 led to an increase of about 6 percent in the number of chicks hatched in 1933



over numbers in 1932. Before the hatching season was over the sharp rise in feed prices had reversed the relation between the prices of feed and poultry products, making it unfavorable to poultrymen. This led to a very heavy marketing of both hens and young chickens in June and July, continuing in heavier volume than last year up to October. Although many more young chickens were disposed of during the summer of 1933 than in 1932, they were evidently sold at an earlier age and at lighter weights. The receipts of young stock at central packing plants in terms of pounds were heavier in June and July, but they were from 10 to 30 percent less through August and up to mid-October of 1933 than in 1932. As a result of the large marketings, the material increase in numbers of laying stock that should normally have followed the increased hatchings amounted to only 1 percent on October 1 and the supply of young chickens other than layers was about 1 percent less.

The data given on number of poultry and production of poultry products is based almost wholly upon the indication derived from the monthly returns representing farm flocks, which group accounts, however, for over 80 percent of the eggs produced. To what extent they might be modified by full information concerning the situation of commercial producers cannot be stated. In a general way, the situation would affect both types of producers similarly, although commercial producers would feel the increases in prices of feedstuffs more acutely. However, general information indicates that birds in commercial flocks increased this year in the North Atlantic and far Western States more rapidly than those in farm flocks. No adequate information exists concerning the assumed increase during the last 2 or 3 years in the number of small flocks in the towns and on tenant farms. Such flocks are kept mainly for home supplies. Any decrease in demand on usual sources of supply resulting from them would be much less than their production, because many of their owners would buy relatively few poultry products.

#### COMMERCIAL BABY-CHICK PRODUCTION

The production of baby chicks by commercial hatcheries during the hatchery season of 1933 was about 8 percent greater than the production during the corresponding period of 1932. Early hatchings were smaller but during the latter part of the hatching season they were materially larger. The large number of the baby chicks hatched toward the close of the hatching season was evidently the result of a greater interest in late broilers.

The output of baby chicks by commercial hatcheries in the Mountain and Pacific Coast States this year was approximately 12 percent larger than in 1932. To some extent this increase reflects a slight expansion in laying flocks in those States, but it is chiefly to replace old hens that have been carried in flocks from previous years. Hatchings throughout the grain belt of the Middle West were considerably above those of last year. Increases were reported for the commercial egg-producing areas of the New England States and the Middle Atlantic States, but they were not quite so large as for the egg-producing sections of the Middle West.

#### FEED SUPPLY

Allowing for wheat fed and to be fed, the present supply of feed grain is about 20 percent less per animal unit than the supply last year, 8 percent less than the average of the previous 5 years, and 3 percent less than in the drought year, 1930. Grain supplies are relatively shortest in the Central States and are fairly abundant in most of the South. The supply of corn, the largest component of the poultry ration, is estimated to be about 15 percent less than in 1932 but 10 percent greater than in the drought year, 1930. Wheat supplies are smaller than in any recent year and probably much less wheat will be fed this year.

#### MARKET POULTRY RECEIPTS

Receipts of dressed poultry at the four principal markets, for the first 9 months of 1933, were about 14 percent larger than the receipts for the same months in 1932. Part of this increase was due to heavy shipments of turkeys in January, especially from the turkey-growing sections of the Central States. Substantial increases in the receipts of other classes of poultry from these regions occurred during the late spring and early summer; this was particu-

larly true of fowl and broilers in June and July. Receipts of dressed poultry from the Pacific Coast and Mountain States were very light. Receipts of live poultry at New York and Chicago were about 7 percent smaller than last year, offsetting to a partial extent the increase in the receipts of dressed stock. Receipts of chickens during the fall and winter are expected to be about equal to last season but receipts of turkeys somewhat less.

#### STOCKS OF POULTRY IN COLD STORAGE

Total stocks of dressed poultry in storage began to increase as of July 1, instead of following a normal seasonal decline until about September 1. Many midsummer shipments of poultry were held on shippers' instructions at prices too high to move them into immediate consumption, and considerable stock of this nature was sent eventually to storage in the hope that these prices would be obtained at a later period. So far, however, prices have either held steady or on some classes worked seasonally lower.

Although speculative buying this fall has been relatively conservative, poultry in storage has tended to accumulate somewhat more rapidly than a year ago, principally to the account of receivers and shippers. On October 1 a total of 50,156,000 pounds of poultry was held in cold storage, an increase of 37 percent over the stocks in storage on October 1, 1932, and 2 percent over the 5-year average for that date. Increases amounted to about 50 percent for broilers and 175 percent for fowl. The heavy stocks of broilers and the substantial increase in the late commercial hatches of baby chicks for early fall-broiler production will discourage production of "hothouse" broilers for the early winter markets.

Normally the peak for stocks of dressed poultry in storage is reached in either January or February. It is too early now to predict the quantity that will be in storage at the peak of the 1933-34 marketing season, but it appears reasonably certain that the stocks will be larger than the peak stock a year earlier, and probably above the preceding 5-year average.

#### CONSUMPTION OF POULTRY

The urban consumption of dressed poultry during the first 9 months of 1933 was about 1.8 percent larger than the consumption during the same period last year as indicated by the trade output reported for the four principal markets. Consumption apparently was very heavy in January, when an increase of 19.2 percent over January a year ago was registered, mainly because of a large movement of turkeys into consumption.

#### EGG PRODUCTION 1933

Although the year 1933 began with 4 percent more hens in laying flocks than was true the previous year, the hens were less productive this year than during 1931 and 1932 when cheap feed and favorable winter seasons resulted in the largest production per hen since the record was begun in 1925. The sharp decrease in the number of eggs laid per hen in September and October was most pronounced in the Central States.

The production of eggs per flock this year to October 1 was relatively greater than the rate of layings per hen because of a larger number of layers during the first half of the year. Aggregate layings per flock indicated by the monthly reports from January to October, which tend to reflect total production, were about 3 percent less than in 1932, 7 percent less than in 1931, and almost 5 percent below the average for the 5 years 1927-31. After June the decrease in the production of eggs was more pronounced, running not only below the records of 1932 and 1931 but also decidedly below the 5-year average. A relatively low rate of laying and a smaller production of eggs than last year seem in prospect this fall and early winter, affected up or down to some extent by the character of the weather during that period. If the more favorable relation of egg prices to feed prices seen in September and October continues, this with the larger proportion of pullets in the flocks will tend to increase the relative rate of laying and bring production of eggs during the late winter up toward the level of last winter.

#### MARKET RECEIPTS OF EGGS

Receipts of eggs at the principal terminal markets through September this year were about 10 percent larger than the receipts for the same period a year



ago. Receipts were heavy during the first 7 months. Following the heavy marketing of hens in June and July, however, production began to drop sharply under that of the preceding year, and receipts of eggs at the four markets for August and September were 8 percent and 15 percent, respectively, smaller than those of the same months in 1932. Receipts also ran lighter than a year earlier during the early part of October, and present indications point to a continuation of the trend at least until the later hatched pullet crop of 1933 comes fully into laying. Particularly important in the geographical distribution of receipts according to origin is the fact that receipts this year were much heavier from the East and the Middle West, but very much lighter from the Mountain and Pacific Coast States. This is the third successive year in which egg receipts at the principal markets from the commercial producing areas of the far West have shown a decrease under those of the preceding year. A larger production of commercially hatched baby chicks in both the Mountain and Pacific Coast States this year, however, indicate that laying flocks in those sections may be slightly expanded this fall; if so, shipments from the far West in 1934 may surpass those of 1933.

The increase over last year in receipts of eggs at the principal terminal markets this year, notwithstanding a smaller farm production, is consistent with the fact that prices of eggs compared with feed prices during the first half of this year were relatively much better than last year when unsatisfactory prices at the terminal markets led to heavy farm consumption and to increased local disposal of eggs.

#### STOCKS OF EGGS IN COLD STORAGE

In view of the fact that eggs stored in 1932 were sold at prices considerably above the prices at which stored, it was generally expected that the quantity stored in 1933 would be considerably above the relatively small quantity stored in the preceding year. Eggs began to move into storage in late February, and as the season advanced stocks piled up much more rapidly than they did a year earlier. On August 1 shell eggs in storage amounted to 9,507,000 cases, an increase of about 48 percent over stocks of the same date a year earlier, but only about 2 percent above the 5-year average. Stocks of frozen eggs on August 1 were likewise larger, amounting to 107,660,000 pounds, about 8 percent heavier than on August 1, 1932, and 7 percent larger than the 5-year average. The combined stocks of shell eggs and frozen eggs in storage on August 1, this year, equaled 12,583,000 cases, an increase of about 35 percent over August 1, 1932, but only about 3 percent over the 5-year average. Following August 1, stocks began to move out of storage and into consumption. By October 1, the reduction had amounted to about 22 percent from the August 1 stocks compared to a reduction of about 24 percent to the same date last year. Although the supply of eggs in storage this year at its peak was much larger than for last year, the subsequent rate of reduction has been only slightly below that of a year ago. The sharp drop in egg production during late summer and early fall with a resulting greater-than-usual decline in the seasonal volume of fresh eggs received at the principal markets has made possible this relatively rapid rate of reduction from the season's peak.

Although storage stocks are large, if fresh egg production during the next few months does not increase more rapidly than now seems probable, it is more than possible that the remaining stocks may be moved out of storage at prices that will cover original buying prices and carrying costs. Eggs are not being held with a great deal of confidence, however, as owners of storage eggs in general appear to be willing to accept almost any offer that will not mean impairment of original investment. On the other hand, some holders feel that even the present heavy stocks will be needed before the season is over, and are holding back in the expectation that prices will be high enough later to permit them to make a profit. In either case, it does not seem likely that the present stocks will be entirely moved out of storage before late January or early February. Since it appears that many holders of storage eggs this year will not be able to show any net profits on this year's storage deal, the storage demand in the spring of 1934 will probably not be so strong as in 1933, and the quantity of eggs stored will probably be smaller.

#### CONSUMPTION OF EGGS

The urban consumption of eggs during the first 9 months of 1933 was apparently smaller than during the same period a year earlier, as evidenced by the

trade output in the four leading markets which for these months showed a decrease of 11.8 percent. During the closing months of 1932 and the opening months of 1933 consumption was seriously checked by the relatively small supplies and the high prices. When supplies became more plentiful along in late February and early March, wholesale prices dropped sharply. Before sufficient time had elapsed for the lagging decrease in retail prices to become fully effective in increasing consumption, wholesale prices started upward once more under a strong storage demand. This had a tendency to check consumption again, and to hold it to a lower level than in the preceding year during the months of April, May, and June, as stocks piled up rapidly in storage. Eventually, however, the large stocks lessened the demand for eggs for storage. As prices fell in late summer, consumption began to pick up, and in July it exceeded by a slight margin the consumption of July 1932. Consumption was somewhat smaller in August but was larger again in September.

#### PRICES OF POULTRY AND EGGS

The farm price of chickens in March 1933 was 9.1 cents per pound, the lowest price on record since 1910. As usual, prices recovered slightly in midsummer and the July price was 10.4 cents per pound. By October the regular seasonal decline in prices was evident and the farm price was 9.3 cents per pound. Post-war chicken prices have remained at a higher level than have those of most other agricultural commodities. In 1933, part of this advantage to poultry producers disappeared, for chicken prices did not respond to advancing price levels to the same extent as did most other commodities. The index of chicken prices in October, compared with its October pre-war average, was approximately 79 as compared to 67 for grains, 62 for meat animals, 77 for dairy products, and 87 for eggs.

Heavy early marketings of poultry, and the unusual seasonal accumulation of stocks of frozen poultry, operated to depress poultry prices both on the farm and at New York City. Although the general level of prices rose rapidly after March in 1933, poultry prices during the 10 months from January to October showed no more than an average seasonal change.

The wholesale price of fresh dressed poultry in New York City was lower during the first 9 months of 1933 than during the same months of 1932, a condition which was about equally true of farm prices and prices at retail. Prices for fowl, however, showed a greater decline based on prices for last year than did those of the young poultry classes, and even at the lower prices, storage stocks of fowl accumulated rapidly during June and July because of unusually heavy farm marketings.

The farm price of eggs for the spring months of April, May, and June of 1933 averaged 10.7 cents per dozen as compared with 10.4 cents for the same months in 1932. The slightly higher prices in the spring of 1933 were largely to be explained on the basis of a rising level of prices and increased storage demand, since production was greater than during the same months in 1932. The rise in farm egg prices between spring and fall in 1933 was greater than would be expected on the basis of the average of such increases during the last 10 years. This rise in prices was largely due to a slowly rising price level and to sharply curtailed production after June. Prices have not risen as rapidly as in 1932, when storage stocks were much smaller.

During the early spring of 1933, feed prices were low as compared with prices for eggs, and egg production was stimulated. Between May and July, however, grain prices advanced over 50 percent, while egg prices advanced only about 10 percent. This rise in feed prices reduced the advantage in poultry and egg production with the result that fowl and broilers were sent to market in large volume and egg production was materially lowered. After July egg prices continued to rise more rapidly than indicated by an average seasonal trend, while feed prices gradually declined with the result that by September feed and egg prices were more normally adjusted to each other, and the early fall movement of poultry to market was at a more nearly normal rate.

#### TURKEYS

Such information as is available at this time indicates that the turkey crop of 1933 is plentiful but somewhat smaller than the record crop of 1932. According to reports from crop correspondents, the number of ordinary farm



flocks has increased considerably, although the average size per flock is smaller. The number of all turkeys in farm flocks is apparently about the same as in 1932. Data are not available for large-flock producers, but general information indicates that flocks of this type are fewer and smaller than last year. There appears to be a decided increase in numbers of turkeys raised in the Plain States from Montana and the Dakotas to Nebraska, but some decrease in the South and in most of the far West, and possibly a small decrease in the Northeast. Poor fertility, poor hatches, and unfavorable weather in some sections during the early growing season, together with the very low prices received for the 1932 crop and uncertainty concerning prices this season, are the factors mainly responsible for the decrease.

The conditions of the turkeys raised this year varies in different sections, but in general it is possible that they are not quite so well matured or finished because of high feed prices and lack of grain in some sections. The lateness of Thanksgiving this year may tend partially to offset this condition. The somewhat smaller crop, the relatively low stocks of turkeys still in storage, small imports, and present increased employment, will prove sustaining influences in the market. On the other hand, stocks of other poultry on October 1, were much heavier than last year. Prices of chickens were about 2 cents lower per pound on September 15 and turkey prices at the beginning of the season were 1 or 2 cents lower than last year. It seems probable that average prices received by turkey producers this year will not differ greatly from those of last year except as affected by average quality and weight of the crop.

Turkey production in 1932 reached record proportions, with an estimated crop of more than 19,000,000 birds. This large crop, coupled with reduced consumer purchasing power, resulted in farm prices for turkeys which averaged 6.6 cents per pound lower during the marketing season of 1932-33 than for the same months of 1931-32 and which were the lowest for the last 20 years. The effect of these lower prices on production in 1933 was partially offset by lower feed prices which prevailed well into the 1933 hatching season and which were probably largely responsible for the fact that the 1933 hatch was apparently quite large in spite of the low prices received for the 1932 crop.

Additions to the storage stocks of turkeys last fall and winter were very large and the peak holdings on February 1, 1933, amounted to 16,700,000 pounds, the largest holdings on record with the exception of holdings on February 1 and March 1, 1925. The February 1, 1933, storage stocks were about 2,500,000 pounds greater than in 1932 and were 5,276,000 pounds in excess of the 5-year average. Movement out of storage was unusually heavy, however, particularly during February, March, and April. As a result, storage stocks were gradually reduced until on October 1, 1933, they amounted to 2,767,000 pounds, as compared with 2,591,000 pounds on October 1, 1932, and the 5-year average for that month of 4,188,000 pounds. The free movement of stocks out of storage caused the market prices of frozen turkeys to improve considerably, quotations advancing about 4.6 cents per pound from January to August, and prices of turkeys out of cold-storage warehouses at New York City during the summer and fall of 1933 were very similar to those of 1932, but for hens the prices were slightly lower. Prices for fresh-dressed turkeys in August were slightly below those in 1932, and live-turkey prices were also somewhat lower. The decrease in prices may be due in part to the heavier early movement of turkeys to market this year.

Import of turkeys were sharply lower in 1932 than in previous years. Imports in 1933 have been even less, to date, and will have practically no influence on prices during the coming holiday season.

The lowered margin of profit received from turkey raising last season has probably checked somewhat the tendency toward expansion in commercial turkey raising which has been in evidence during the last few years. The opportunity that turkey raising affords for a cash crop has caused less curtailment in smaller flocks and in sections especially suited to turkey production.

The outlook for turkey raising next year cannot be gaged accurately at this time. The number of turkey hens carried over into 1934 as breeding stock and the size of the turkey crop raised in that year will depend upon prices received for this year's crop and probably also on feed prices. Should the turkey crop prove to be almost as heavy as in 1932, with prices about the same or lower, and with the higher feed costs extending into the hatching season of 1934, the number of turkeys raised for market in 1934 is likely to be reduced. If a small increase in prices should be received by producers as compared

with last year, the present volume of production may be well maintained next year, especially if feed prices should be lower, while a sizable price increase may be expected to increase production in 1934.

### CLOVER SEED AND ALFALFA SEED

Production of red clover, alsike clover, and sweetclover seed in 1933 was much smaller than usual, and the fairly large production of alfalfa seed is offset by the smallest carry-over of this seed in recent years. Supplies of these seeds are below normal, and if the wheat- and corn-acreage-reduction program should result in an expansion of the acreage in hay and pasture, prices of these seeds are likely to advance considerably. Although current prices for clover and alfalfa seed are higher than last year at a corresponding time, they are much lower than for the 5-year period 1926-30.

Growers of red- and alsike-clover seed might well plan to harvest a larger acreage for seed in 1934 than they did this year. Had not yields approached, or even exceeded in some districts, those of last year, the production would have shown a greater decrease from that of last year because of the marked reduction in the acreage left for seed. Supplies of sweetclover seed are the smallest since this crop became popular, and a small increase in acreage might well be recommended if it were not for the fact that a burdensome surplus might result, because large yields over extensive areas are easily obtained whenever weather conditions are favorable. Alfalfa-seed acreage should be maintained or increased slightly, except in the Southwestern States, because weather conditions as favorable for the setting of this seed as they were this year may not occur during the next year or two.

The production of red-clover seed this year is estimated at 50,000,000 pounds, compared with approximately 75,000,000 pounds in 1932, 47,000,000 in 1931, and 68,600,000 pounds, the 5-year (1926-30) average. The decrease from the fairly large crop of last year was due to reductions both in acreage and yield per acre. Hot dry weather in June and July was mainly responsible for these reductions. In no State were conditions particularly favorable for the production of red-clover seed.

There have been no imports of red-clover seed for 1½ years, whereas during the 10-year period, 1921-30, they averaged 10,332,600 pounds, or one sixth to one seventh of the annual planting requirements. Supplies of this seed in Europe are smaller than average, and it is not likely that much, if any, of it will be exported to this country during the next 10 months unless a big advance in prices occurs in this country. Exports of red-clover seed from the United States during September were the largest on record, 474,701 pounds having been exported to the United Kingdom.

Although sales of this seed last spring were slightly smaller than in 1932, the carry-over is smaller than usual. Current prices to growers average about \$9.75 per 100 pounds, basis clean seed, compared with about \$8 last year, \$10.45 in 1931, and \$23.45, the 5-year (1926-30) average about October 15.

Alsike-clover-seed production this year may not have exceeded 20,000,000 pounds, compared with about 26,300,000 pounds in 1932, 21,300,000 in 1931, and 25,800,000 pounds, the 5-year average. The factors that accounted for the decrease in the red-clover-seed production were likewise responsible for the small crop of alsike-clover seed.

None of this seed has been imported in more than 2½ years. Five to ten years ago more than 5,000,000 pounds, or about one fifth of this country's requirements, was imported annually, almost entirely from Canada. The production there this year is reported to be smaller than average.

The carry-over of alsike-clover seed was smaller than in recent years notwithstanding that a fair crop was produced in 1932, and sales during the spring were below average. The absence of imports since March 1931 and the fact that exports were above average more than offset the other factors affecting supplies. Current prices to growers average \$11.25, compared with \$8 last year, \$9.50 in 1931, and \$21.55, the 5-year average, about October 15.

Sweetclover-seed production was about one fifth smaller than last year, when the smallest crop in about 10 years was produced. The 1933 crop is estimated at 28,000,000 pounds, compared with 34,400,000 in 1932, 50,300,000 in 1931, and 64,000,000 pounds, the 5-year (1926-30) average. Drought and grasshoppers were chiefly responsible for the reduction in acreage this year as well as last year.



No sweetclover seed has been imported in more than 3½ years. Exports, likewise, have been practically negligible. Sales of this seed last spring were about 10 percent smaller than those in 1932. The carry-over is indicated to be much smaller than in recent years because of the unusually small production in 1932. Current prices of sweetclover seed to growers average about \$2.80, compared with \$2.15 last year, \$3.30 in 1931, and \$5.90, the 5-year average about October 15.

Because of the very factors (drought and hot weather) that curtailed red- and alsike-clover-seed production, the production of alfalfa seed was increased. A larger crop than last year was indicated for almost every State that produces this seed. The 1933 production is estimated at 55,000,000 to 60,000,000 pounds, compared with the small crop of 32,300,000 pounds of last year, 50,300,000 in 1931, and 56,700,000 pounds, the 5-year average.

Imports of alfalfa seed for the last 5 years have been of little consequence, averaging 422,140 pounds during that period. On the other hand, exports during the calendar year 1932 were the largest on record. They amounted to 1,564,641 pounds, the bulk of this quantity having gone to France, a country that normally produces a surplus. A below-average production in Europe is again forecast this year.

Although spring sales of alfalfa seed were about 5 percent smaller than in 1932, the carry-over was much smaller than a year ago. This decrease was due mostly to the very small crop of 1932, but also to the larger exports. Current prices to growers for common alfalfa seed average about \$7.75 per 100 pounds, basis clean seed, compared with \$7.50 last year, \$8.50 in 1931, and \$16, the 5-year average about October 15. Grimm alfalfa prices this year range mostly from \$9 to \$12.

## POTATOES

The total plantings of potatoes in 1934 are likely to be in the neighborhood of 3,300,000 acres, or 2 percent above the 1933 acreage. With this acreage, average growing conditions would probably result in a crop of about 360,000,000 bushels. Such a crop would return the growers a much smaller gross income than that received for the light 1933 crop but probably somewhat above the low incomes of 1931 and 1932.

The demand for potatoes is inelastic; that is, small crops during the last 25 years have consistently returned higher gross incomes to growers than have large crops. Poor growing conditions in 1933 resulted in the smallest crop since 1925 and gross returns to potato growers are expected to be almost three times as large as those received during the previous year, and the largest income in several years.

The consumption of potatoes has gradually been declining during the last 10 years. A total acreage of about 3,000,000 acres will ordinarily produce an ample supply for human consumption. Yields of potatoes during recent years have usually varied between 100 and 120 bushels to the acre and 3,000,000 acres could therefore be expected to produce between 300,000,000 and 360,000,000 bushels, and the average would be about 330,000,000 bushels. A crop of this size could usually be marketed at prices profitable to efficient potato growers in good locations. When more than 3,000,000 acres are planted, growers can expect lower prices unless yields should be lower than usual.

## MARKET OUTLOOK FOR REST OF 1933 SEASON

The potato crop in 1933 is expected to be the fifth smallest during the last 25 years. The October 1 forecast was 307,000,000 bushels or 50,000,000 less than the 1932 crop, and compares with the small crops produced in 1925 and 1919 of about 298,000,000 bushels. The 1933 crop in the 30 late States was estimated at 250,000,000 bushels, which is much smaller than the 1926-30 average of 284,634,000 bushels and only slightly above the crop of 247,000,000 in 1925 and 241,000,000 in 1919. The geographical distribution of the crop is somewhat different this year than in 1925 and 1919, since the shortage this year is largely in the central States, although the crops in the eastern and western late States are also somewhat below average.

The late crop in the three eastern surplus States is estimated this year at 83,506,000 bushels, which is 8 percent smaller than the 1932 crop, but 9 percent greater than that produced in 1925 and 2 percent greater than the 1919 crop. In the 5 central surplus late States the 1933 crop is estimated at 70,138,000 bushels, which is 27 percent below that produced in these States in 1932, 12

percent below that of 1925, and 18 percent below that produced in 1919. The crop in the 10 western surplus late States is estimated at 67,227,000 bushels, which is 5 percent greater than that produced in 1932, 17 percent greater than that produced in 1925, and 56 percent greater than that of 1919. In the 12 other late States, the 1933 crop is estimated at 29,266,000 bushels, which is 31 percent below the 1932 crop, 11 percent below the 1925 crop, and 4 percent below that of 1919.

Shipments of potatoes from the late States started unusually early this season as a result of high market prices. The rail and boat movement to October 28, 1933, from the 30 late States totaled 45,400 cars compared with 30,800 cars moved to October 29, 1932. These heavier fall marketings, together with the smaller production in the late States, indicate that the supply of old potatoes for the late winter and spring markets will be short and conditions are favorable for a marked advance in market prices during the remainder of the 1933-34 late crop season.

During the 1919-20 and the 1925-26 seasons, the average potato prices for the New York and Chicago markets rose approximately 225 percent and 150 percent, respectively, from the low point in October to the season's high the following April. During 1919 the low point in the price trend was reached about the middle of October, while during 1925 it came during the first week of that month.

The prices of southern early potatoes during April, May, and early June of 1933 were extremely low, but in mid-June it became apparent that the intermediate crop was greatly reduced by heat and drought, and after the middle of June new-potato prices rose sharply to a peak in mid-July. The sharp advance in prices brought an increasing volume of shipments from late States. As a result, prices dropped steadily from the middle of July until the third week in October. Market prices for the week ended October 21 were about 60 percent below the July peak at Chicago and 40 percent below at New York. These declines, however, are not unusual in seasons when supply has been similar to that of this year. It is probable that the lowest point in potato prices this year has been reached.

#### PROBABLE PRODUCTION IN 1934

Following two seasons of successive reductions in southern commercial potato acreage, growers in the early and intermediate States reported about October 1 that they intended to increase their 1934 commercial acreage to 295,000 acres or about 19 percent over that harvested in 1933 and 7 percent over that of 1932. This is equivalent to 1.5 percent increase in the total potato acreage in the United States. The "intentions-to-plant reports" indicate a combined acreage increase of 36 percent in Florida and southern Texas, 18 percent in the group comprising the other early sections of Texas and the States of Alabama, California, Georgia, Louisiana, Mississippi, and South Carolina; a 17-percent increase in the second-early States of Arkansas, North Carolina, Oklahoma, and Tennessee, and a 16-percent increase in the intermediate States of Virginia, Kansas, Missouri, Maryland, Kentucky, New Jersey, and Nebraska. In most of these States the tendency is to return to an acreage closer to the average (1929-32—304,600 acres) planted prior to 1933.

Assuming that the acreage now planned is actually planted in 1934 and that average yields are obtained, the production of commercial early, second-early, and intermediate potatoes will total about 40,000,000 bushels compared with 30,100,000 bushels in 1933 and 32,400,000 in 1932. The increased production of potatoes in the early and second-early States indicated by the October 1, 1933, intentions-to-plant can probably be marketed at reasonably profitable prices since the spring carry-over of old potatoes will be unusually small. Many growers are likely to expand their acreage beyond the October 1 intentions if credit is available. Any great acreage expansion will make a less favorable outlook. Prices for the intermediate crop, however, may be a great deal lower, since prices in the intermediate States depend almost entirely on the production in those States.

During the 1931 and 1932 seasons of low prices, potato growers in the late commercial-potato areas suffered losses. The 1931-32 seasonal average cash returns to growers for U.S. No. 1 potatoes bulk per hundredweight, in 5 of the major late-producing States ranged from 32 cents in Maine and Michigan to 44 cents in Idaho. The 1932-33 seasonal average price ranged from 26 cents



in Idaho to 44 cents in western New York. The 1933 October preliminary prices in these States ranged from 57 cents per hundredweight in Idaho to 101 cents in Maine. Evidently these low prices in 1931 and 1932 seasons resulted in severe losses to many growers, particularly in areas distant from markets. This resulted in decided acreage reductions in Maine, Idaho, and Wisconsin. However, growers in producing sections fairly close to markets and whose distribution costs have been low or reduced have been able to maintain their acreages almost up to the peak of that planted in 1931 or 1932.

There are as yet no reports concerning the acreage for 1934 planned by the growers in the late-producing sections of the United States, but some idea of their probable change in acreage can be obtained from their previous reactions to market prices. After the high prices received for the 1919 crop, growers in the United States as a whole increased their planting of potatoes only 1,000 acres. The decrease in the 30 late States was 16,000 acres, which was offset by a slightly larger increase in the early and intermediate States. After the high prices in 1925-26, growers in the country as a whole decreased plantings 6,000 acres, and the decrease in the 30 late States was again 16,000 acres. In 1930, after the good prices obtained for the 1929 crop, the acreage planted in the 30 late States did not exceed that planted in 1929 but the early States increased 52,000 acres and the intermediate States 6,000 acres, which was equivalent to a 2-percent potato acreage increase for the United States as a whole. The acreage in the late States was held in check both in 1920 and in 1926 by the scarcity and high prices of seed.

The probable increase in the acreage in 1934 is difficult to estimate as early as November 1. Present indications are for an increase of 46,000 acres by the growers in the commercial early and intermediate States. If seed is available at prices which are not prohibitive, the late States will probably also increase acreage slightly. On the whole, an increase of about 60,000 acres, or 2 percent, seems a conservative estimate, particularly since acreage in the major States of Maine, Idaho, Nebraska, Minnesota, Colorado, and Wisconsin has been greatly reduced during the last 2 years. This increase would result in a total of 3,283,000 acres in 1934. Average growing conditions would result in yields of about 110 bushels to the acre and a crop of 360,000,000 bushels. With a crop of this size, prices of late potatoes in 1934 are likely to decline from the high levels of 1933, but if the late-crop acreage is not increased materially, the income received for late potatoes may be above the low levels of 1931 and 1932, particularly if consumer buying power should further increase.

### SWEETPOTATOES

The improvement in prices of sweetpotatoes in 1933 is likely to encourage farmers to increase acreages in 1934. This is particularly true of growers in those areas in which sweetpotatoes are grown for sale or market. However, in the Eastern Shore of Virginia where sweetpotatoes are commonly grown on the same farm with Irish potatoes the acreage of the former may be reduced because of the increased plantings of the latter. In most parts of the South, acreage will probably be increased because of the increased returns this season.

Owing to the unusually low prices received for sweetpotatoes during the 1932 season and to the increased plantings of cotton in the spring of 1933, the acreage of sweetpotatoes was decreased 12 percent below that of 1932. The decreases were fairly uniform in the central and lower Atlantic Coast States, and in the Central and Western States, where they averaged about 7 percent below those of 1932. In the South Central States where the cotton acreage increases were the greatest and where sweetpotatoes are grown largely as a farm food crop, the decreases in acreage averaged 16 percent.

For the country as a whole, yields this year are expected to average slightly higher than those of last year and higher than in any year since 1929. This is particularly true for the lower Atlantic and South Central States. In the central Atlantic States (New Jersey, Delaware, Maryland, and Virginia) where most of the dry-type sweetpotatoes are grown, yields are expected to be better than in 1932, but below those of 1931.

Production of sweetpotatoes this season was forecast at 70,000,000 bushels, or about 8,500,000 less than the large 1932 crop, but about 7,500,000 more than the 1926-30 average. In the central Atlantic Coast States production is placed

at 7,700,000 compared with 6,900,000 last year; in the lower Atlantic States, 22,300,000 this year against 24,500,000 in 1932; in the South Central States, 36,400,000 bushels this season against 42,700,000 last year; and in the Central and Western States, 3,600,000 this year against 4,400,000 in 1932.

After 4 years of declining prices, sweetpotato growers this year are experiencing a reversal of the trend. Farm prices this season have been lifted by the influence of the shortage in late potatoes. On September 15, sweetpotato prices to growers averaged 76.2 cents per bushel, compared with 55.3 cents per bushel a year ago, 81.4 cents per bushel 2 years ago, and 128.7 cents in September 1930. Because of the small crop of late potatoes this season, sweetpotato growers should make an effort to cure their crop well. The indications now point to considerable improvement in the market demand for sweetpotatoes during the remainder of the present marketing season.

### TRUCK CROPS FOR MARKET

The market outlook for commercial truck crops for fresh market shipment during the remainder of the present season and in 1934 appears to be somewhat more favorable for producers than the situation has been during the last 2 years. With somewhat smaller commercial supplies in 1933 and with some improvement in demand conditions, particularly during the latter half of the year, gross returns to growers of truck crops were larger in 1933 than in 1932. Although there was a reversal in the normally expanding acreage planted to truck crops in 1933, the higher prices received for the late crops are likely to encourage expansion of acreage again in 1934.

Supplies of late cabbage, onions, potatoes, and sweetpotatoes are considerably smaller this season and the carry-over of these crops is expected to offer less competition to early 1934 spring-grown vegetables. However, the marked tendency toward increased home and local gardening in and around towns and on farms, which has characterized the last two or three seasons, has been even more pronounced in 1933. Much of this increase in gardening primarily represents sustenance enterprises with the surplus products being home-canned for winter consumption, but these operations have had the effect of expanding the proportion of foodstuffs produced locally, and thus decreasing the outlet for supplies that would normally move in from distant producing areas. Although the cost of production had been lowered in all vegetable-producing areas from 1929 until midsummer of 1933, transportation costs remained relatively unchanged, except for that portion shipped by motor truck. As prices have declined to low levels these costs have taken an increasingly larger share of the returns on commodities shipped long distances. This reacts to the benefit of growers nearest the market and, under such circumstances, the shift toward local production of food supplies, both for home use and for local sale, may be expected to continue.

Prices of commercial truck crops for fresh-market shipment averaged about 10 percent higher during 1933 than during 1932. Most of the advance, however, came in the second half of the year, after it became known that production of many of the intermediate and late crops was reduced materially through smaller acreages and by drought and high temperatures. There was also some increase in consumer purchasing power in the latter half of the year as a result of improved business conditions. The advance in truck-crop prices this season marks a reversal of the sharp downward trend which has taken place since 1928. Prices of 17 important truck crops declined about 6 percent in 1929, 10 percent in 1930, 15 percent in 1931, and 17 percent in 1932, making a total decline of 40 percent.

Production of 17 important truck crops for fresh-market shipment declined about 10 percent in 1933, from the record production in 1932. This is the first time since 1928 that the steady expansion of production has been materially interrupted. Production of these truck crops in 1933 is estimated at 107 percent of the 1924-29 average, compared with 102 percent in 1928, 114 percent in 1929, 118 percent in 1930, 117 percent in 1931, and 119 percent in 1932.

The decline in production of these 17 important truck crops was due mainly to a decrease of 8 percent in the harvested acreage, as yields per acre averaged about the same as in 1932. The acreage of these truck crops has expanded steadily during the last 10 to 15 years and until 1933 had increased every year since 1923. The average rate of increase from 1923 to 1932 was about



7 percent per year, although in 1931 and 1932 it averaged only about 2 percent per year. In 1933 the acreage of 17 truck crops for fresh-market shipment totaled 1,311,000 acres compared with 1,432,000 in 1932 and the 1927-31 average of 1,250,000 acres. There were decreases in the acreages of asparagus, snap beans, beets, cabbage, cantaloups, cauliflower, celery, cucumbers, lettuce, onions, peppers, tomatoes, and watermelons. There were increases in carrots, green peas, and spinach; there was no change in the eggplant acreage. For 1934 the indications are that the tendency to gradually expand the acreages of these vegetables will again be resumed.

The commercial yields of truck crops for fresh-market shipment have been declining for more than a decade. The yield figures represent a composite of all areas producing the various crops; and although there are many factors affecting the averages of yields over the country as a whole, the indicated decline is probably chiefly due to the sharp expansion of acreage through which has occurred a gradual shifting of acreage to lower-yielding areas. During the decade ended with 1931, average yields per acre of 17 important truck crops taken as a whole declined about 20 percent, but since 1931 yields have been fairly stable.

With both average yields and prices of vegetables declining during the last decade, value per acre has declined sharply. From 1929 to 1932 the average return per acre from all truck crops for fresh-market shipment declined about 45 percent. These commercial truck crops returned growers an average of about \$104 gross per harvested acre in 1933 compared with \$96 per acre in 1932, \$118 in 1931, \$142 in 1930, and \$175 in 1929. During the early 1920's the index of value per acre of 17 important truck crops averaged about 125 percent of the 1924-29 average, while during the early 1930's it averaged only 65 percent; or the net decline during the 10 years was approximately 50 percent. The decline during the last few years has been accentuated by the sharp decline in prices which resulted from the drastic reduction in consumer demand.

### CABBAGE

The United States cabbage acreage of 124,110 acres in 1933 was about 11 percent below that of 1932 and 13 percent below the 1927-31 average. The 1933 yield per acre averaged 17 percent below the 1932 yield and, with the smaller acreage, caused a 26-percent decrease in production. The 1933 crop totaled 719,600 tons against 973,600 tons in 1932 and the 5-year average, 1927-31, of 1,050,300 tons. With smaller supplies and with some improvement in consumer purchasing power during the second half of the year, cabbage prices generally averaged higher than in 1932. This price improvement was confined to the intermediate and late crop; prices of the early and second-early crops were lower than in 1932, being influenced by the large carry-over of late cabbage.

Production of domestic and Danish types of cabbage in the late States totaled only 382,800 tons in 1933, in contrast to 621,100 tons in 1932 and 581,300 tons the 1927-31 average. The 1933 acreage of domestic type was decreased 17 percent and Danish type 21 percent, owing to the disastrously low prices received for the large 1932 crops. Yields of both types were smaller than in 1932, the domestic type showing the greater reduction. The 1933 production of domestic cabbage in the late States is estimated at 189,200 tons, in contrast to the large 1932 crop of 327,000 tons. As a result of the smaller crop and a stronger demand, prices to growers through early October averaged about three times as high as the low 1932 prices. The early-season prices of domestic-type cabbage averaged about \$14.20 per ton, compared with \$4.12 for the 1932 crop, and \$10.31, the 1927-31 average.

The 1933 production of late Danish or storage-type cabbage is estimated at 193,600 tons against 293,900 tons in 1932, which was about an average crop. The smaller production of 1933 is the result of both a decreased acreage and smaller yields per acre. This smaller supply is bringing higher-than-average prices. Early fall prices have averaged around \$16.75 per ton, compared with \$3.54 per ton in 1932 and \$12.82, the 1927-31 average. Judging from what has happened in the past, the higher prices received for late cabbage this year are likely to influence growers to increase their 1934 plantings 10 to 20 percent which, with average yields in 1934, is likely to produce more late cabbage than can be marketed at prices affording a reasonable return to growers. Even with no increase in the late acreage in 1934 compared with 1933 and with average yields, production in 1934 would be 28 percent greater than in 1933.

In the early States (California, Florida, Louisiana, and Texas) it is likely that acreage planted for the 1934 spring market will be increased over the 1933 harvested acreage. Although prices to growers in 1933 were about 50 percent below 1932 prices, the prospective small carry-over of late cabbage is likely to encourage growers in these early States to increase plantings. The 1933 planted acreage was about 50 percent above the 1932 acreage, but severe freezes in January and early February destroyed a large part of the growing crop in Texas, and the acreage finally harvested in the four States was about 10 percent less than in 1932. Yields in Texas on the harvested acreage were decreased about 25 percent from the 1932 yield. Production for the four early States totaled only 147,600 tons, compared with 173,500 tons in 1932 and 216,400 tons, the 1927-31 average. Despite the small 1933 production, prices to growers averaged only \$12.75 per ton against \$25.90 per ton in 1932, because of the large carry-over of late Danish-type cabbage. With the smaller 1933 production of late Danish-type cabbage, it is likely that the carry-over will be much less a competitive factor in the early 1934 months.

In the second-early States (Alabama, Georgia, Mississippi, North Carolina, South Carolina, and Virginia) the prospects are for some increase in acreage in 1934 largely because of the likelihood that the carry-over of late Danish cabbage will be small. However, the low prices received for the second-early crop in 1933 may cause growers to increase acreage only moderately. In 1933 the acreage of cabbage in these States was increased 25 percent over that of 1932. With a slightly higher yield than in 1932, a total of 67,200 tons was produced in these States in 1933 compared with 48,300 in 1932 and 83,500 tons, the 1927-31 average. With consumer purchasing power at a low level and with a heavy carry-over of late Danish cabbage, prices of the second-early crop in 1933 averaged only \$25.60 per ton to the grower compared with \$42.25 in 1932.

Low prices received for the intermediate crop in 1932 caused growers in Arkansas, Illinois, Iowa, Kentucky, Maryland, Missouri, New Jersey, New Mexico, Tennessee, Washington, Long Island (N.Y.), and parts of Ohio and Virginia to reduce their cabbage acreage slightly in 1933. The smaller acreage and slightly lower yields resulted in a crop of only 115,500 tons of cabbage against 127,100 tons in 1932 and 163,200 tons, the 1927-31 average. With smaller supplies and somewhat improved demand conditions, prices of the intermediate crop averaged about \$27.30 per ton compared with \$15.41 in 1932, and a 5-year average price of \$21.90 per ton. The improved prices of 1933 are likely to cause some increase in acreage in these States in 1934. However, lower-than-average yields were produced during the last 2 years, and therefore any appreciable expansion of acreage, with average yields in 1934, would increase production considerably.

## TOMATOES

The acreage of fall-crop tomatoes in Florida and Texas grown for fresh-market shipment in 1932-33 was almost double that of 1931-32, but unfavorable growing conditions cut yields to less than one half the usual average. Production totaled only 190,000 bushels compared with 272,000 bushels in 1931. Despite the small production, prices of this crop averaged only \$1.97 per bushel against \$2.97 the year before. In south Florida, the early-spring-crop acreage was increased about 27 percent in 1933 and, with fairly good yields, produced 1,620,000 bushels or slightly more than was harvested in 1932. Despite the larger production, prices averaged slightly higher than during the previous spring. In the other early areas (Imperial Valley of California, other sections of Florida, and the lower valley of Texas) the acreage of tomatoes was increased about one third, to 31,000 acres. Most of this increase occurred in the lower valley of Texas. The yield and production in California and Florida were lower than in 1932 but Texas production was three times as large as in 1932. The three areas combined produced a total of 1,713,000 bushels in 1933 against 1,299,000 bushels in 1932. With these much heavier supplies and with lower demand conditions, prices averaged only \$1.57 per bushel compared with \$2.56 in 1932 and \$2.41, the 1927-31 average. Owing to the lower prices received for these fall and spring tomato crops, the acreage planted in these areas for the coming season will probably be somewhat smaller than that of last year.

A smaller quantity of winter tomatoes will be available for export to the United States from Cuba and Mexico, according to early reports. Advices from Cuba say that the exports will probably be around 650,000 lugs of 38 pounds net, or roughly 20 percent less than last season's shipments. Picking of the



7,000-acre Cuban crop will begin about the first week in December, which is 2 weeks later than usual; this is the result of adverse weather and of labor troubles. Production costs this year are expected to be considerably higher in both Mexico and Cuba. In the latter country 1932 costs were estimated at about \$1.08 per 50-pound lug, f.o.b. Habana. Definite information on the size of the Mexican crop is not available, but reports indicate that unfavorable weather conditions have reduced the crop considerably.

In the second-early States (Georgia, Louisiana, Mississippi, South Carolina, and Texas other), the 1933 acreage of tomatoes was decreased about 14 percent below that of 1932. Yields averaged slightly below those of the previous year and production was reduced materially. A total of 2,702,000 bushels was produced in 1933 compared with 3,214,000 in 1932. With these smaller supplies, prices averaged \$1.52 per bushel or somewhat higher than in 1932 and only slightly below the 1927-31 average. These higher prices are likely to cause growers to increase the second-early acreage in 1934, but since yields last season were unusually low and since the acreage was above the recent 5-year average, only a moderate increase in the 1934 acreage will be sufficient to produce a second-early crop large enough to supply the demand at prices affording producers reasonable returns.

The 1933 production in the intermediate States (Arkansas, Maryland, Missouri, New Jersey, North Carolina, Tennessee, Virginia; and parts of California, Ohio, and Illinois) was reduced to 4,090,000 bushels from the large crop of 5,780,000 bushels in 1932. This decrease in production was due to a 17-percent reduction in acreage and to 15-percent lower yields. With the smaller supplies in this group of States, coupled with a smaller production in the second-early States, prices of intermediate tomatoes averaged 83 cents per bushel or substantially higher than in the previous year, but lower than the recent 5-year average. The greater returns this year are likely to result in some increase in acreage in 1934. In view of the fact that more nearly average yields may be obtained in 1934, which would be somewhat higher than those of 1933, any expansion of acreage in 1934 over that of 1933 would result in an intermediate production much larger than that of last season.

The 1933 acreage of tomatoes in the late States (Colorado, Delaware, Indiana, Iowa, Kentucky, Michigan, New York, Oregon, Pennsylvania, Utah, Washington, and parts of California, Ohio, and Illinois) was decreased about 9 percent below that of 1932. Yields were about average but, owing to the smaller acreage, production is expected to total only 4,674,000 bushels compared with 5,051,000 bushels harvested in 1932 and 5,752,000 bushels, the 1927-31 average. The southern district of California, which comprises the second section of the late group of States, is expected to produce only 806,000 bushels in 1933 against 979,000 bushels during the previous season. These smaller supplies, coupled with improved demand conditions, are resulting in higher prices to growers in 1933 than they received in 1932. In view of the decrease in acreage in 1933 and the higher prices being received for the late crop, it is probable that the 1934 acreage will be somewhat larger than that of the present season.

## ONIONS

Production of onions in the late States this year is expected to be about 25 percent below the record crop harvested in 1932 and only slightly below average. Owing to the disastrously low prices received for onions in 1932 the acreage in the late States in 1933 was reduced about 13 percent below that of 1932 and 6 percent below the average acreage of the previous 5 years. The 1933 yields are indicated to be somewhat under those of 1932 but slightly above average. The smaller crop in 1933, combined with some improvement in demand conditions, is resulting in prices almost three times as high as the low prices received by growers in 1932. During the early fall months late-onion prices have averaged about 60 cents per bushel compared with only 21 cents, the season average for the 1932 crop, and 76 cents which was the 1927-31 average. These higher prices this year are likely to encourage growers in the late-crop States to increase their 1934 acreage. However, a crop of late onions no larger than the crop produced in 1933 is adequate to take care of consumption requirements at a price that will afford reasonable returns for labor and investment on the average farm.

In the spring of 1933 the storage stocks of onions from the large late crop of the previous year were unusually heavy and prices generally were very low.

These heavy supplies had a depressing influence on prices throughout most of the early crop (Bermuda and Creole) marketing season, so that prices for these new onions averaged only slightly more than one half those of 1932. These low prices were received despite the fact that new-crop production in the early States totaled only 2,708,000 bushels against 4,886,000 bushels in the previous year. Owing to the huge storage supplies of late onions last season, the early acreage was reduced from 24,850 acres in 1932 to 19,650 acres in 1933. The yields in Texas and Louisiana were reduced materially by unfavorable growing conditions. For 1934 the price prospects for the early crop are more favorable than they were in 1933, and it is probable that the acreage of onions in the early States will be increased somewhat. However, even with no increase in the early acreage in 1934, production would be increased about 45 percent if average yields are harvested. With an average production of onions in the late States this season, the competition from storage supplies next season is not likely to be so severe as it was in 1933.

The 1933 domestic onion crop in the intermediate States was decreased about 11 percent below that of 1932, primarily because of a decrease in acreage. A total of 2,657,000 bushels was produced in these States in 1933 against 2,992,000 bushels the previous year. As a result of these smaller supplies and some improvement in demand conditions, onion growers received an average of 81 cents per bushel for their 1933 production against 51 cents the previous year and 83 cents, the 1927-31 average. These higher returns are likely to cause some expansion in acreage in 1934, but by the time the intermediate crop is marketed it is likely that considerable supplies of early onions will still be on the market and will have a depressing influence on prices of intermediate onions.

### CANTALOUPS AND MISCELLANEOUS MELONS

The early acreage of cantaloups and miscellaneous melons in 1933 was 22 percent smaller than that of 1932, which resulted in an 18 percent smaller marketable supply of early cantaloups and melons. Commercial production in the early States (Florida, Imperial Valley of California, and south Texas) amounted to 5,248,000 crates in 1933 compared with 6,420,000 crates in 1932, which was about 2 percent below the average production of 1927-31. Owing to these smaller supplies, growers in the early States received slightly higher prices than in 1932, or \$1.40 per crate against \$1.15.

In the second-early States (Arizona, Arkansas, Georgia, Nevada, North Carolina, Oklahoma, South Carolina, and other sections of California and Texas) the cantaloup and melon acreage was decreased about 36 percent and production was reduced from 5,661,000 crates in 1932 to 3,980,000 crates in 1933. Although supplies in these States were decreased 30 percent, prices to growers averaged only a little higher than in the previous year. In 1933, growers received 59 cents per crate against 54 cents in 1932, and \$1.12, the 1927-31 average.

In the intermediate and late States, there were only small changes in the acreage of cantaloups and melons, and production remained about the same as in 1932. The crop was smaller in the intermediate States but larger in the late. These supplies resulted in lower prices to growers than in 1932. The intermediate crop returned growers only 57 cents per crate compared with 81 cents in 1932, and \$1.33, the 1927-31 average. The late-crop prices averaged 62 cents per crate compared with 71 cents in 1932, and \$1.05, the recent 5-year average.

### WATERMELONS

Watermelon acreage from 1930 to 1932 was especially large—approximately 235,000 acres for the country as a whole in each of these years. Prices to growers declined steadily from 1929 to 1932, and in 1931 and 1932 a considerable part of the crop was left unharvested because of low prices, especially in producing sections where transportation costs are high. Watermelon acreage in 1933 was reduced about 20 percent from the large 1932 acreage, and with a yield per acre below the average, production was the smallest since 1923. With a reduced crop, prices improved somewhat over the low 1931 and 1932 prices, but total gross returns to growers were, with the exception of the 1932 crop, the lowest in more than a decade.

Early acreage in Florida and California in 1933 was estimated at 30,500 acres or about 20 percent less than the 1932 acreage and about 40 percent below the peak plantings in 1929. Yield per acre was low and production the



smallest since 1923. Prices to growers in these early States improved sharply from the low prices of recent years and averaged only slightly below 1929 prices.

The tendency to reduce watermelon acreage was carried over into the second-early States of Georgia, South Carolina, North Carolina, Alabama, Mississippi, Texas, and Arizona, where the reduction from the 1932 acreage amounted to about 25 percent. Yield per acre was low and the indicated 1933 production in these second-early States was the smallest since 1919. Notwithstanding the small crop, prices to growers improved only moderately from the extremely low 1932 prices.

Late watermelon acreage in Arkansas, California, Colorado, Delaware, Illinois, Indiana, Iowa, Maryland, Missouri, Nevada, New Jersey, Oklahoma, Oregon, Virginia, and Washington was reduced about 15 percent from the high acreage of 1931 and 1932 but was the third largest acreage thus far planted. Yields in these late States were somewhat above average and prices were more than 25 percent higher than the low 1932 prices.

### TRUCK CROPS FOR MANUFACTURE

With relatively light supplies of canned vegetables in sight for the 1933-34 marketing season, and with some improvement in consumer purchasing power during the latter half of 1933, it appears that prices to growers for tonnage of truck crops grown for manufacture may be somewhat higher in 1934 than the record low prices of 1932 and 1933 and that larger acreages may be contracted in regard to certain crops. Wholesale prices of canned vegetables have shown material advances over the low points of early 1933 and will probably continue in a relatively favorable position throughout the 1933-34 marketing season.

Judging from the movement of total acreage of canning vegetables during the last 15 years, when acreage expanded and contracted through more or less regular periods, reaching peaks in 1918, 1925, and 1930, it appears that, following the low acreage of 1932, the increase of about 9 percent in 1933 is likely to be followed with further expansion of acreage in 1934 and 1935. During the last 2 years the low level of consumer purchasing power has been the dominant factor affecting prices, and prices to both the grower and packer remained low in spite of relatively small supplies in each of those years. Acreage should be determined, as far as possible, by probable consumption requirements of the several crops during the 1933-34 and 1934-35 marketing seasons. The probable level of consumer purchasing power, size of the 1933 packs, carry-over, and, to some extent, competition of fresh vegetables and home canning, are the main factors to be considered. Since packers usually control about 90 percent of the acreage of canning vegetables through contracts with growers, the determination of the 1934 plantings is largely in the hands of the packers themselves.

The 1933 level of prices to growers of seven of the more important truck crops for commercial manufacture (tomatoes, green peas, sweet corn, snap beans, asparagus, cabbage for sauerkraut, and spinach) appears to be about 4 percent above the low-record level of 1932, but remains 31 percent below the average for the period 1924-29. Comparative data are not available for the base period, 1909-14. This slight increase for the group reflects the higher prices paid to growers in 1933 for tomatoes, sweet corn, and cabbage for sauerkraut, the three crops on which contract prices were voluntarily increased by canners at the request of the Agricultural Adjustment Administration. On the other four crops of the group (asparagus, snap beans, green peas, and spinach), prices in 1933 averaged about 3 percent lower than for 1932. During the period 1921 to 1930 the index of average price per ton for these seven crops showed very moderate fluctuations from year to year, with no year varying more than 8 percent from the 1924-29 level. Beginning with 1930, prices of these vegetables declined only slightly but dropped 15 percent during 1931 and 22 percent in 1932. As a result of low prices and relatively light yields per acre during 1931, 1932, and 1933, the average gross value per acre during this period dropped 36 percent below the 1924-29 average. The crops returned, on the average, about \$31 per acre gross to the growers in 1933, compared with \$35 in 1932, \$38 in 1931, \$50 in 1930, and \$56 in 1929.

Prices of canned goods (tomatoes, sweet corn, green peas, and snap beans) have shown declines which have been closely associated with the declines in prices paid to growers for raw materials. The average wholesale price of these canned products during the early months of 1933 was 35 to 40 percent below

the 1924-29 level and followed closely the drop in the all-commodities index. The September prices of canned vegetables, however, were materially higher than January prices and averaged only about 16 percent lower than the 1924-29 September level. Inasmuch as contract prices to the grower are largely determined by prices received by packers for canned vegetables during December, January, and February, the level of prices to growers for raw materials for the 1934 season will depend largely upon wholesale prices of canned vegetables during the next 4 months. The present wholesale level is higher than the low prices of early 1933.

Insofar as the supply of canned vegetables affects prices to the grower and canner, the present statistical position of the supply factors is rather favorable. Judging from preliminary estimates, the total production of commercial canning vegetables in 1933 is about 11 percent below the small production of 1932 and nearly 31 percent under the 5-year average production for the period 1927-31. Increases over 1932 on the production of asparagus, sweet corn, green peas, and spinach have been more than offset by smaller crops of the other vegetables, especially of tomatoes and cabbage for sauerkraut. In terms of pack of canned vegetables, production comparisons are possible on tomatoes, green peas, sweet corn, and snap beans, the only major canning crops on which the Department of Commerce gathers annual pack statistics. The combined canned pack from these crops, representing from 85 to 90 percent of the total tonnage production of the seven crops listed above, according to October 1 estimates of tonnage production will be around 44,000,000 equivalent cases of no. 2 cans, or slightly less than the total of approximately 45,000,000 cases packed in 1932. (Although estimated tonnage production of the four crops is 12 percent less than that of 1932, the decrease in probable pack is only about 2 percent, because of the variation in cases per ton obtained from the several crops.) The 1932 and 1933 packs are the smallest since 1922. A high record pack of about 80,000,000 cases was obtained in 1925. Following 1925, there were 2 successive years of decreases succeeded by 3 years of expansion, which culminated in another high pack of 75,555,000 cases in 1930. In 1931 the pack declined to 55,425,000 cases. The average size of the total pack for the 5-year period 1927-31 was 60,894,000 cases, with a range from 50,818,000 cases in 1927 to 75,555,000 cases in 1930.

Although complete data on present holdings of canned vegetables by canners and distributors are not available, these holdings are comparatively small as a result of 2 successive years of light production. The quarterly report of the Department of Commerce of October 1, 1933, giving comparative holdings of identical groups of representative canners and distributors from one period to another, showed the following trends for tomatoes, green peas, sweet corn, and snap beans.

Total holdings *by identical canners* of the four commodities on October 1, 1933, were about 30 percent below their stocks on hand October 1, 1932. Canned tomato stocks (carry-over stocks) decreased 64 percent, green peas 27 percent, sweet corn 30 percent, and snap beans 13 percent below the holdings of October 1, 1932. Compared with holdings on October 1, 1931, tomatoes were smaller by 83 percent, green peas by 45 percent, sweet corn by 47 percent, and snap beans by 33 percent.

Total stocks of the same commodities held *by identical distributors* on October 1, 1933, averaged about 3 percent less than stocks on hand October 1, 1932. Tomatoes declined 13 percent, snap beans 1 percent, holdings of green peas were about the same, and sweet corn increased about 2.8 percent.

Following a high record of 1,211,300 acres of the seven major canning vegetables harvested in 1930, the combined acreage of these vegetables declined to 995,130 acres in 1931 and to 724,500 acres in 1932. Although the acreage planted to these crops in 1933 increased to 792,000 acres, or about 9 percent over that of 1932, it remains 20 percent below the 5-year average for the period 1927-31. The acreage planted to canning vegetables has expanded and contracted in a more or less regular movement since 1918. Following a peak of 808,400 acres harvested in that year, total acreage declined for 3 successive years to a low point of 394,200 acres in 1921. Beginning with 1922, there were 4 successive years of increases to another peak of 1,067,500 acres in 1925. This peak was followed by 2 years of decreased acreages and then by 3 years of expansion, reaching the high peak of 1,211,300 acres in 1930. It now appears that acreage is at the beginning of another period of expansion.



## SNAP BEANS FOR MANUFACTURE

The average price paid to growers in 1933 for snap beans for canning appears to have been about 2 percent under the low price of 1932 and was the fourth successive decline registered since 1929. Declines in prices to growers have been closely associated with declines in wholesale prices of canned snap beans (green and wax) during the December and January preceding the crop season. During the last three seasons these declines were as follows: For the December and January preceding the 1931 season, the price level of canned snap beans was 15 percent below the average for the 1926-30 period and was followed by a price to growers 14 percent below the 1926-30 average; for the 1932 season, canned snap beans were 38 percent less than the 1926-30 average and prices to growers 39 percent less; for the 1933 season, canned snap beans registered a decline of 43 percent below the same average, and prices to growers were 40 percent under the average. In September 1933, the average wholesale price of canned snap beans was about 25 percent less than the 5-year average September price for 1926-30.

The price of canned snap beans depends more upon factors outside the industry than upon the size of the bean pack. The changes in consumer purchasing power and in prices of competing vegetables, and the production of snap beans for the fresh market, are important factors that have influenced the price of canned snap beans during the last two seasons. These factors have tended to depress the price of snap beans and have brought about a drastic reduction in supplies since the peak productions of 1929 and 1930.

In 1930, the acreage of snap beans for canning reached a high record of 78,700 acres. In 1931, this acreage was reduced to 52,700; in 1932, it dropped to 31,700; and in 1933, the planted acreage reached a total of 32,800. Yields per acre have been relatively low during the last three seasons and, combined with the acreage decreases, have resulted in light production. Production in both 1932 and 1933 was less than one half of the record-high crops of 1929 and 1930. The indicated pack of green and wax beans from the 1933 crop, based upon estimated tonnage, will probably be near 3,800,000 cases of 24 no. 2 cans compared with packs of 4,024,000 cases in 1932, 6,067,000 cases in 1931, 8,251,000 cases in 1930, and 8,529,000 cases in 1929.

Supplies of canned snap beans promise to be equivalent to about 4,500,000 cases of no. 2 cans for the 1933-34 season compared with 4,000,000 for the 1932-33 season and an average of about 5,500,000 for the last five seasons. For the last two seasons consumption of canned snap beans has averaged slightly under 4,000,000 cases. Since consumption depends, to a large extent, upon the relation of canned snap bean prices and prices of snap beans on the fresh market, the supply requirements for the 1934-35 season are difficult to estimate.

## SWEET CORN FOR MANUFACTURE

Following declines in prices to the grower of 14 percent in 1931 and 32 percent in 1932, preliminary estimates indicate that the 1933 average price to the grower was about 6 percent higher than the 1932 price but was about 38 percent below the 5-year average price for the period 1926-30. The higher price paid to growers in 1933 was largely the result of late-season increases in contract prices by canners at the request of the Agricultural Adjustment Administration.

Contract prices to growers are largely influenced by the average wholesale prices of canned corn during the December and January preceding the crop season. During the last three seasons declines in the December and January canned prices below the average for the 1926-30 period have been succeeded by declines in contract prices below the 1926-30 average as follows: Preceding the 1931 season, a decline of 7 percent in the wholesale price of canned corn was followed by a 14-percent decline in the contract price to growers; for the 1932 season, a decline of 32 percent in the price of canned corn was followed by a 41-percent decline in the contract price; and for the 1933 season, a 41-percent decline in the price of canned corn was followed by a 38-percent decline in the average contract price. (The 1933 comparison relates to the adjusted price paid to growers after late-season increases were made by canners.) The average wholesale price of canned corn in September 1933 was about 25 percent below the 1926-30 level of September prices.

Acreage of canning corn in 1933 was increased about 16 percent over the unusually small acreage of 1932 but was 40 percent less than the 5-year average for the period 1927-31. Total production in 1933 is expected to exceed the 1932 production by about 4 percent but compared with 1927-31 average will show a decrease of 36 percent. Pack statistics are not yet available from the 1933 crop, but the estimated production of tonnage would indicate a pack of approximately 10,000,000 cases of 24 no. 2 cans. In 1932, the total pack was 9,358,000 cases; in 1931, 19,415,000 cases; and in 1930, 15,692,000 cases.

With a probable pack of about 10,000,000 cases in 1933, and with a relatively small carry-over on September 1, it appears that the total supply of canned corn for the 1933-34 marketing season will not greatly exceed 12,000,000 cases of no. 2 cans and may not exceed consumption requirements for the 1934-35 marketing season. In this event the total supply of canned corn for the 1934-35 marketing season must come from the pack of 1934. Total supplies for the 1932-33 season were about 16,000,000 cases, and the average of the last 5 years was between 19,000,000 and 20,000,000 cases. The apparent annual consumption for the period 1925-30 appears to have averaged about 16,000,000 cases. In 1930-31 the apparent consumption had dropped to about 15,000,000 cases; in 1931-32 it appears to have been about 16,000,000 cases; and in 1932-33 around 14,000,000 cases.

Under average growing conditions a yield of about 2.1 tons per acre might reasonably be expected. Should near-average growing conditions prevail in 1934, it would require from 250,000 to 275,000 acres to produce a tonnage sufficient to pack 14,000,000 cases.

#### GREEN PEAS FOR MANUFACTURE

Declines in the average price to growers of 5 percent in 1931 and 20 percent in 1932 were followed by a further decline of 4 percent in 1933. The 1933 price to growers was 27 percent below the average for the 5-year period 1926-30. Contract prices to growers have usually followed the trend of wholesale prices of canned peas during the preceding December, but during the last two seasons have shown relatively larger decreases than have the prices of canned peas. In September 1933 the wholesale price of canned peas was about equal to the average for September during the 5-year period 1926-30.

On an acreage about 13 percent larger than that of 1932 and slightly smaller than the 5-year average of 1927-31, the 1933 production exceeded the 1932 production by approximately 17 percent. The crop experienced the second successive year of unfavorable growing conditions, however, and total production dropped 28 percent below the 5-year average production. Had more nearly average growing conditions prevailed, the pack from the 1933 acreage would probably have exceeded 17,000,000 cases of 24 no. 2 cans and resulted in a heavy carry-over and relatively low prices for canned peas. The pack which actually resulted under adverse growing conditions totaled 12,893,000 cases compared with 10,367,000 cases packed in 1932, 13,288,000 cases in 1931, and with a high record of 22,035,000 cases in 1930.

Total supplies of canned peas for the 1933-34 marketing season were probably in the neighborhood of 14,000,000 cases of no. 2 cans, compared with about 13,000,000 cases for the 1932-33 season and an average for the last five seasons of about 20,000,000 cases. The domestic utilization of canned peas during the 1932-33 season was about 12,000,000 cases, which was considerably under the 5-year average apparent consumption of about 16,000,000 cases. With somewhat improved consumer purchasing power expected, it appears probable that the 1933-34 supplies may be absorbed to such an extent that carry-over at the end of the season may be relatively small. However, the acreage planted in 1933 was sufficient to have produced a pack of 17,000,000 cases under near-average growing conditions and, unless a material improvement in consumer purchasing power occurs next year, an acreage of equal size planted in 1934 may produce a pack that will be excessively large for domestic consumption requirements.

#### TOMATOES FOR MANUFACTURE

Although no definite information is yet available on the average price paid to growers for canning tomatoes in 1933, it is expected that this price will be



somewhat higher than the relatively low prices of 1931 and 1932, which averaged 20 and 32 percent, respectively, below the 1926-30 level. The light production estimated for 1933, combined with late-season increases of contract prices on the part of canners, are expected to bring about this improvement in the 1933 average price.

Contract prices to growers are influenced by the average of wholesale prices of canned tomatoes in December and January preceding the crop season. The averages for these months preceding the 1931 and 1932 seasons showed drops of 25 and 26 percent, respectively, below the 1926-30 average. The price of canned tomatoes in September 1933 was about 20 percent below the September average for the 5-year period, 1926-30. If employment were at a higher level, the relatively light supply of tomatoes expected in 1933 would be a more significant factor in determining the level of prices for canned tomatoes during the next 3 months and of contract prices for the 1934 crop.

Production of tomatoes for manufacture in 1933, according to October 1 indications, was expected to be smaller than any crop in the last 11 years. But as weather during October has been favorable for late harvesting, it is probable that final reports may show a total production somewhat larger than the estimate of October 1. The total production indicated on October 1 was 957,000 tons, or 20 percent less than the 1932 production of 1,199,000 tons and slightly smaller than the light crop of 1931, when a total of 976,500 tons was produced. Compared with the peak production of 1,757,600 tons in 1930, the 1933 crop shows a reduction of about 46 percent. The indicated average yield per acre on the 1933 acreage is the lowest during the last 15 years, with the exception of 1931, and is the result of early season drought in many of the producing areas and damage from the severe storm that swept some of the Atlantic Coast States during the latter part of August.

The light production of tomatoes for manufacture now indicated for 1933 will probably mean a pack of about 10,000,000 cases of 24 no. 3 cans of canned tomatoes. This estimate is based upon the assumption that the proportion of the 1933 total production going into canned tomatoes will not differ greatly from that of 1932, when approximately 50 percent of the total production estimated for manufacture was utilized as canned tomatoes, and 50 percent went into the manufacture of tomato juice, paste, pulp, puree, catsup, etc. In 1932, the pack of canned tomatoes, estimated upon an incomplete enumeration by the Department of Commerce, appears to have been around 12,000,000 cases of no. 3 cans. In 1931, the pack was 9,573,000 cases; in 1930, it had reached 16,998,000 cases.

It appears that the total domestic supply of canned tomatoes for the 1933-34 season will not exceed 11,000,000 cases of no. 3 cans, compared with a domestic supply of about 13,000,000 cases for the 1932-33 season and with an average of about 14,700,000 cases for the 5-year period, 1927-32. Imports of canned tomatoes during the 5-year period, 1928-33, have averaged about 2,000,000 cases and exports have averaged about 83,000 cases. In 1932-33 imports were 1,460,000 cases and exports were 82,000 cases.

The average yield per acre during the 5-year period, 1927-31, was 4.1 tons per acre. Should near-average growing conditions prevail in 1934, it would require an acreage about as large as the 5-year average of 313,000 acres to produce a pack of 13,000,000 cases, assuming that approximately the same proportion of the total tonnage for manufacture would be packed as canned tomatoes in 1934 as in recent years.

## FRUITS

Probably the most significant factor manifest in the fruit industry as a whole is the tendency to develop, or at least to maintain, orchards close to large consuming centers and to neglect considerably those more distant. Comments from fruit producers in the lower Hudson Valley in New York, in eastern Michigan near Detroit, in Pennsylvania in the vicinity of Philadelphia, and in northern Ohio, indicate that good care is being given orchards in these areas. In contrast to this tendency, a note of discouragement is sounded from many of the more distant producing sections. This condition has been brought about largely by the declining prices of the last 3 years during which the producer within economical trucking distance of market has been able to reduce marketing costs relatively more than those at greater distances. Also during the last 3 years consumer purchasing power has been low and quality has not brought the usual premium.

Prices of nearly all fruits have been declining steadily since 1929. During 1930 it was practically impossible to cut costs as rapidly as the price declined. As a result growers received little above costs for their fruit crops. During the next year (1931) production costs at the orchard had been reduced close to the minimum and, in fact, in many cases resulted in actual neglect to trees. Freight rates were not reduced in conformity with the declining prices and by 1931 prices had reached a point at which the cost of getting the produce from the producing center to the distant consuming center was taking a very much larger proportion of the consumer's dollar than was the case when prices were higher.

The average production of apples per tree in the Pacific Northwest is nearly double that of New York or Virginia; however, the declining prices without a corresponding decline in transportation costs during the last 4 years has gradually wiped out this advantage of the Northwest. In addition, the producer close to markets has found it possible to reduce not only orchard costs but also transportation costs by use of motor trucks. The net result has been to offset the advantage of higher production and lower orchard cost per unit of production held by some of the distant areas. This has placed the producing areas that are in close proximity to the larger markets in a highly advantageous position from a domestic-market standpoint as compared with those areas farther away.

From the export standpoint, the situation is again clouded by increased tariffs and quotas established by importing countries.

These developments, during the last few years of low prices, have been largely responsible for the tendency toward better care of the nearby orchards and relatively more neglect in those locations where transportation constitutes a large portion of the producing costs. How long and to what extent this development will go will depend largely upon the future course of prices and costs. At present, orchard-operating costs have been reduced to such extent that diseases and insects are making heavier inroads than usual on the quality of the fruit produced. In order to produce good quality fruit, many orchardists will find it necessary to increase spraying and other operating expenses.

Owing largely to the rapid increase in citrus production during the last 15 years, the combined production of all fruit has continued to advance approximately 1 percent a year for the last 10 years. The trend of total apple production has been about level since 1924 with some indication of a downturn during the last 2 years. The production trend is downward for peaches, grapes, and olives. Trend of pear, cherry, and prune production continues upward. There are still sufficient trees of all kinds now in orchards, however, to continue to produce heavy commercial supplies in years of favorable weather conditions.

On a per-capita basis, production of all citrus fruits for the 5 years 1919-23 averaged 27 pounds per capita as compared with 42 pounds, the average for the period 1927-31. Orange production increased from 19 pounds per capita in the former period to 29 pounds in the latter; grapefruit increased from 5 pounds to 9 pounds, and lemons from 3 pounds to 4 pounds. A similar comparison for other fruits shows that apples declined from an average of 77 pounds per capita in the period 1919 to 1923 to an average of 64 pounds in the 5 years 1927 to 1931, and grapes declined from 39 pounds to 36 pounds, largely as the result of the short 1931 crop. Peaches increased from 21 pounds to 23 pounds and pears from 7 pounds to 10 pounds, thus making a net increase in the per capita production for these seven fruits from 195 pounds to 205 pounds. Imports of bananas average 24 pounds per capita in the period 1919-23 as compared with an average of 30 pounds for the 5 years, 1927-31.

Farm prices of fruit declined steadily from 1929 to 1932 when the lowest level in 20 years was reached. Prices to date during the 1933 season improved somewhat, largely as the result of the relatively short crop of fruits which followed the below-average crop of 1932, and some improvement in consumer-purchasing power.

Exports of fruit and fruit products from the United States have amounted to close to 10 percent of the total fruit crop. Consequently the foreign market is of great importance in the marketing of United States fruits, especially since foreign markets desire a larger proportion of the small sizes of fruit.

Valued at \$65,900,000, exports of fruit and fruit products were exceeded in value only by raw cotton in the year ended June 30, 1933. Total fruit exports amounted to 881,000 short tons, of which fresh fruit comprised 563,000, dried fruit 198,000, and canned fruit 120,000 short tons. Fresh apples are the most



important single item, amounting to 302,000 tons in 1932-33. Oranges totaled 118,000, pears 59,000, and grapefruit 32,000 tons—to mention the most important fresh-fruit exports.

### CITRUS FRUITS

Producers of oranges and grapefruit are confronted with a continuing upward trend in production in the United States. Since approximately half the 611,000 acres of bearing orange and grapefruit trees are less than 15 years old and nearly a fifth of the total acreage of 747,000 is not yet of bearing age, it seems evident that, barring severe damage to trees from freezes or storms, further increases in production may be expected. But planting in recent years, particularly in 1932-33, has slowed down somewhat. The bearing acreage of lemons has not changed much in the last decade although production has increased. More lemon trees than usual were planted during the last few years.

The relationship of the price and the supply of oranges and grapefruit during the last 20 years indicates a pronounced increase in demand up to 1930. During the last 3 years, because of economic conditions, the upward trend in demand has been checked and in the last season, with about the same supply as in the previous season, prices were much lower.

Production has now reached the point at which there are burdensome surpluses in years of average or better-than-average growing conditions. During the 4 years ended in 1931 orange and grapefruit production averaged about 62,860,000 boxes which is 42 percent above the average for the previous 4 years and 60 percent above the average for 1920-23. In 1930 the combined production of oranges and grapefruit amounted to 74,204,000 boxes. With the increase in number of bearing trees and the natural increase in bearing capacity of the younger trees, growing conditions similar to those prevailing in 1930 would now result in a crop of nearly 86,000,000 boxes. If there is no more than the usual loss of trees, it would be possible, under favorable conditions, for the production of oranges and grapefruit combined to exceed 95,000,000 boxes by 1935.

World production of oranges and grapefruit, particularly the latter, is increasing although the rate of planting has decreased in some countries during the last few years. Not much change is indicated in the average world production of lemons. Exports of oranges and grapefruit from the United States in recent years have usually amounted to 7 to 10 percent of the crop. Uncertain factors in the outlook for future exports of oranges and grapefruit are the result of increasing world supplies, tariffs, import restrictions, exchange ratios, and general business conditions.

For the 1933-34 season the outlook is for somewhat better marketing conditions than existed last year. The total orange and grapefruit crop is expected to be smaller than in 1932. Storms in September reduced grapefruit crop prospects 88 percent in Texas and 25 percent in Florida. Oranges were less severely damaged. The smaller supplies and the prospect of the regulation of shipments in accordance with the requirements of the markets are strengthening factors in the outlook for the 1933-34 marketing season. The citrus-fruit marketing agreements that are nearing completion (Nov. 3, 1933) under the Agricultural Adjustment Act include provisions for regulating the volume of shipments.

### ORANGES

Total United States orange acreage now amounts to about 535,000 acres, of which 460,000 acres or 86 percent is of bearing age. Of the acreage in bearing, 62 percent is estimated to be 15 years old or older, 18 percent between 10 and 15 years, and 20 percent between 5 and 10 years. Florida now has approximately 260,000 acres, of which 221,000 are of bearing age and 39,000 are not of bearing age. The bearing acreage in Florida, as a whole, has ceased to expand and is now probably declining slightly. During the last 3 years plantings were less than half those of the previous 3 years. In California there are about 237,000 acres in oranges, of which 211,000 are in bearing. About 98,000 of the bearing acres are Washington Navel and miscellaneous varieties, and 113,000 acres valencia. The bearing acreage of valencia continues to expand and the majority of recent plantings have been of this variety. The bearing acreage of Washington Navel, on the other hand, has tended downward slightly during the last 2 years. Acreage of oranges in Texas and Arizona has been increasing during recent years and is now estimated at

about 19,000 acres bearing, and 8,200 acres not yet of bearing age. In Louisiana, Alabama, and Mississippi, production is largely of satsuma oranges. The combined acreage in these States is approximately 11,500 acres, of which about 9,300 are of bearing age.

Production of oranges for the country as a whole averaged about 31,461,000 boxes during the period 1920-23, about 34,609,000 boxes from 1924-27, and about 48,178,000 boxes from 1928-31, which shows about 53 percent increase since the period 1920-23. With the increasing bearing capacity per tree up to about 15 years of age and the large proportion of trees that have not reached full bearing, it seems that, barring unusual loss from freezing or other catastrophes, the average production of oranges during the next 5 years is likely to exceed the average for the last 5-year period.

The total United States orange crop in the 1932-33 season was only 1 percent larger than that of the previous year but owing chiefly to weaker demand conditions, prices to Florida growers in 1932-33 averaged 37 percent less and to California growers 18 percent less than in the previous season. With slightly smaller prospective supplies for 1933-34, the outlook is that prices will average higher than last season, particularly if business conditions improve.

World orange production and the volume moving into trade are increasing. More oranges than formerly are being shipped during the winter months (December to April) by Palestine and Spain, particularly Palestine, and during the summer months by Brazil and South Africa. Consequently, more competition than formerly may be expected in export markets, especially in Europe. The future of the United States export trade in oranges will be influenced by the increasing world supplies, changes in per-capita consumption, business conditions, exchange rates, and trade barriers.

Exports of oranges from the United States in recent years have averaged about 7 percent of the production. Canada has usually taken about three fourths of the orange exports and the United Kingdom has been our next best customer.

Orange exports during the 1932-33 season were approximately 3,400,000 boxes which are more than was exported the previous season but are below the 5-year average. Shipments to Canada declined somewhat as compared with 1931-32, whereas the movement to the United Kingdom and continental Europe increased.

The smaller United States orange crop in prospect for the 1933-34 season coupled with the improvement in foreign exchange as compared with last year, are factors favorable to higher prices for the 1933-34 exports.

Although the orange acreage in Puerto Rico is considerably larger than that of grapefruit, amounting to about 30,000 acres, it is far less important commercially. This is because a large proportion of the trees are in small holdings or are allowed to grow wild. Production averages around 1,000,000 boxes a year. Most of the crop is consumed on the island. Shipments to the United States have ranged from about 22,000 to 550,000 boxes a year; the quantity shipped depends mainly on prices in the United States. Consequently in the last few years shipments to the United States have been light.

#### GRAPEFRUIT

In the United States there are about 212,000 acres of grapefruit trees of all ages. Close to 30 percent of the total acreage is not yet of bearing age. For the production of the 1933-34 crop, there are about 151,000 acres of which only about one fourth is as much as 15 years old and therefore considered in full production, and about half is estimated to be between 5 and 10 years old.

Florida has about 90,000 acres of grapefruit trees, of which approximately 9 percent is not yet of bearing age. Of the 92,000 acres in Texas, about 47 percent is not of bearing age. In California and Arizona the grapefruit acreage amounts to about 30,000 with about one third under bearing age.

The trend of production has been steadily upward since the beginning of the industry. For the 5 years 1919-23, the average production was 7,523,000 boxes, while during the 5 years 1927-31, production averaged 13,660,000 boxes, an increase of 82 percent.

With approximately half of the bearing grapefruit trees under 10 years old, and with about 1 tree of nonbearing age to every 2 bearing trees now in groves, it seems reasonable to expect the upward trend in production, that has been in evidence for the last decade or more, to continue. Unless natural



or economic forces intervene to check the rapid increase in production that appears in prospect, grapefruit producers will have to rely upon an increase in demand, improvement in market distribution, and factory utilization of surplus fruit, to maintain profitable prices.

Puerto Rican grapefruit production, owing to hurricane damage to trees and lack of financial resources of growers, will probably not reach normal output for at least 2 or 3 years. Perhaps one third of the trees is under bearing age. The 1933-34 commercial crop will probably be about 1,150,000 boxes. By 1937-38 it is possible that 1,600,000 boxes may be shipped. Although Puerto Rico has a year-round production, the largest shipments to continental United States have usually been from August to October. In recent years an increasing proportion of the Puerto Rican movement has been in the form of direct shipments to foreign countries.

For the last 4 years grapefruit canneries have used an average of about 2,000,000 boxes or about 14 percent of the United States annual production. Although this utilization of fruit has provided a market for some of the surplus, it also competes with the fresh fruit, particularly in the early part of the marketing season. Incomplete statistics now available indicate a pack of around 2,600,000 cases during the 1932-33 season which would be almost three times the pack of the previous season and approximately the same as the pack during 1930-31.

The demand for grapefruit increased greatly from 1914 to 1929 when the upward trend was reversed because of the decline in consumers' purchasing power. In the 1932-33 season, although shipments of Florida grapefruit were about the same as the previous season, the price to growers was 13 percent less.

Production of United States grapefruit for the 1933-34 season is expected to be about 17 percent less than the crop of 1932-33 and about 14 percent less than average for the preceding 4 years. The marketing outlook as compared with last year seems favorable.

World production of grapefruit is expected to continue its rapid increase for at least a decade. Increasing competition may be expected in the export markets. However, the per capita consumption of grapefruit outside the United States is very small and any appreciable increase in per capita consumption would provide an outlet for a large volume of shipments.

An average of about 7 percent of the United States grapefruit crop is exported. The United Kingdom and Canada together take about 95 percent of the exports, which consist mostly of medium- to small-sized fruit. Increasing supplies of Palestine grapefruit in European markets have greatly increased the competition on these markets from December to March, and tend to hold prices at a low level. To meet this competition successfully United States exports must be of good quality and the volume must be in accordance with the needs of the markets. Puerto Rico and Jamaica anticipate average volume of production, whereas the crop of the Isle of Pines will be short because of hurricane damage. The Palestine crop is expected to be somewhat larger than last season. All these countries ship during the winter season. Encouraging factors in the immediate export situation are smaller world supplies and the improved position of foreign exchange.

#### LEMONS

Lemon production in the United States is almost entirely in California. The bearing acreage has not changed much during the last decade but in the last few years there has been a marked increase in planting. Of the 46,000 acres in lemons exclusive of 1933 plantings, about 11 percent was not of bearing age. Production increased 60 percent from the period 1921-23 to 1930-32 in spite of the fact that there has not been much change in bearing acreage. No further increase in average production is expected for a few years, after which some increase may be anticipated.

Imports of lemons have declined in recent years under the tariff of 2½ cents a pound, and are now of relatively small importance. The domestic outlets for California lemons have been correspondingly increased. But production has reached the point at which, in average years, a considerable part of the crop cannot be marketed as fresh fruit.

The United States exports, of which Canada takes about three fourths, average only about 5 percent of the commercial crop.

Prices to California lemon growers averaged 26 percent higher in the 1932-33 season than in the previous season, when the crop was 11 percent larger.

## APPLES

For 20 years or more economic factors have been forcing an adjustment of the apple industry until at the beginning of the present business depression (1929) the industry was generally better equipped for the efficient production of apples than at any time in recent years. On the whole it had a relatively large proportion of the better varieties, production was almost as heavy as 20 years earlier when tree numbers were twice as great, and there were indications that with reasonable care of orchards and moderate tree replacements the orchards would continue to produce for many years an abundance of apples for domestic consumption and a surplus for export.

The depression has tended to speed up some of the adjustments that were already under way at the beginning of the depression. Tree plantings continued to decrease and those of the last 2 or 3 years have been exceptionally light; many trees of odd varieties have been removed; replacements have been made with trees of the more popular varieties; and there has been a continuation of the shift from farm to commercial orchards with better locations. In addition, accumulated financial burdens and low prices of fruit have caused many orchards to be neglected. These adjustments in the physical make-up of orchards, and the curtailment of production expenditures, have reduced the bearing capacity of the apple industry temporarily at least. Although there is no way of measuring the extent of this reduction, it is generally believed that with increased business activity and with increased purchasing power of the orchardists, most of the commercial orchards can be rather quickly brought back to normal bearing capacity. However, during recent years the codling moth—the most serious insect pest of apples—has become increasingly difficult to control in practically all important producing centers. This is resulting in increased expense for spraying and other control practices in well-handled orchards, and an increased percentage of defective fruit from many orchards. Present indications are that apple growers will have to increase their efforts in codling-moth control, as well as provide for the chemical removal of the spray residue from the fruit if satisfactory market apples are to be produced.

Another factor in the apple outlook is the general fruit situation. According to available data the production of oranges, grapefruit, peaches, pears, and grapes, together with the imports of bananas, increased 50 percent from 1919 to 1932 and amounted to 7,423,000 tons in 1932. The Hawaiian pineapple pack nearly doubled from 1924 to 1931, and for the latter year amounted to about 12,700,000 cases. The 1933 pack is estimated at 8,000,000 cases, compared with about 5,064,000 cases in 1932. Generally speaking, large supplies of fruits that compete with apples may be expected to continue in our markets. This, with efforts of European countries to modernize their fruit industries and to erect trade barriers, indicates a continuation of difficulties in marketing large apple crops.

From 1910 to 1925 there was a net decrease of 79,000,000 apple trees in the United States. From 1925 to 1930 there was another decrease of 21,000,000 trees, making a total decrease of 100,000,000 trees, or 46 percent in the 20-year period, 1910-30. Since 1930, tree removals probably have exceeded tree plantings. But in spite of tree removals, and orchard neglect since 1929, production during the last 5 years (1929-33) has averaged only 11 percent less than the average for the period 1909-13, and only about 24 percent less than for the period of high production, 1914-18. These smaller declines in production as compared with tree numbers are due primarily to the shift that has taken place from farm to commercial orchards with better locations, and to the increasing bearing capacity of many trees as they have approached or reached full bearing age. This trend is manifest in the average yield per tree which increased from 1.2 bushels per bearing tree in the period 1908-12 to an average of 1.9 bushels during the period 1928-31.

A noticeable shift to the more popular and better paying varieties has occurred during and since the World War, resulting in many relatively young orchards that have not yet reached full bearing capacity. An apple-tree survey for 41 States indicates that in 1928, 25 to 30 percent of the trees in commercial orchards were under 9 years of age and that 65 to 70 percent were less than 19 years old. According to the census of 1930, about 24 percent of all apple trees in the United States were not of bearing age at that time. Reports from nurseries indicate that since 1930, and especially during the 1932 and 1933 planting



seasons, sales of apple stock for planting have been very light. As yet there has been no shortage of apples in years of favorable growing conditions, nor is there any immediate prospect for a shortage. In fact, commercial production, which may be more significant than total production, increased for several years to a peak of 39,000,000 barrels in the very favorable growing season of 1926. In the last five seasons (1929-33) it has averaged somewhat higher than for the 5 years previous to 1926, and the 1931 commercial crop was the fourth largest on record. During the four depression years, 1930-33, commercial apple production has averaged only 4 percent less than during the previous 4 years. It is believed that with moderate future planting, the number of young trees in commercial orchards would maintain commercial production at a fairly high level for several years, under conditions of average orchard care.

A relatively large proportion of past increases in commercial production has been of the more popular varieties. The apple-tree survey of 1928 indicated that the 10 most important apple varieties, in terms of number of trees, in order of importance were: Delicious, Winesap, Jonathan, Baldwin, Stayman Winesap, Ben Davis, Rome Beauty, York Imperial, McIntosh, and Grimes Golden. These 10 varieties constituted about 60 percent of the total trees in commercial orchards. Plantings of Delicious trees, 73 percent of which were under 14 years of age in 1928, point to increasing supplies of this variety for several years. Production of the McIntosh and the Stayman Winesap varieties is expected to increase, since 60 percent of the trees of these two varieties were under 14 years old in 1928. Another group of varieties in which there are prospects for increased production is composed of Winesap, Jonathan, and Grimes Golden. In 1928, 43 percent of the trees of these three varieties were under 14 years of age. The survey indicated that only moderate plantings of Baldwin, Rome Beauty, and York Imperial were being made, and that plantings of Ben Davis and many of the less popular varieties had been declining for several years. Sales of nursery stock indicate that the relatively light plantings that have been made since 1930 are composed primarily of Stayman Winesap, Delicious, McIntosh, and Jonathan, and to a lesser extent, of Rome Beauty, Winesap, Grimes Golden, York Imperial, Baldwin, and a few other varieties.

#### WESTERN STATES

About 20 years ago, the 11 Pacific Coast and Mountain States produced 19,000,000 bushels of apples per year, whereas they now produce an average of about 56,000,000 bushels annually, an increase of 195 percent. At the same time the number of bearing trees increased 10 percent, and, largely because of increasing age, yield per bearing tree increased from an average of 1.5 bushels to about 4.3 bushels. In these Western States production now is apparently close to its peak for the present cycle. In the Pacific Coast States as a group, a very small percentage of the trees are yet to come into bearing and production as a whole is being fairly well maintained by tree resets and by an increase in producing capacity of trees due to an increase in their age. In the Rocky Mountain States as a whole production is declining.

Plantings in the western apple States in general have been very light in recent years. Commercial orchards in the better districts are generally well cared for but in the poorer fruit districts neglect has been noticeable. The few plantings that are being made are confined largely to Delicious, Winesap, and Jonathan. Rome Beauty is being set to some extent as a filler. The limited plantings in California are confined largely to Delicious, White Pearmain, and Yellow Newtown. In general, the less profitable varieties in the region are being gradually removed. For example, in north-central Washington (including the Wenatchee Valley) and in the Yakima district, a relatively large proportion of the trees removed in 1932 were composed of such stable varieties as Esopus Spitzenberg, Stayman Winesap, and Winter Banana, as well as other less-desirable varieties. In these districts, production of Winesap has probably reached a stationary level, production of the Delicious will continue to increase for several years, and production of Rome Beauty is expected to show a slight increase.

Low prices for apples have increased the difficulty of western growers in marketing. Transportation charges for apples from the Northwest to distant domestic markets consume a large part of apple values, making it very difficult in times of low prices for western growers to compete successfully with producers near the large consuming centers.

## CENTRAL STATES

The Central States as a whole now contain about 43 percent of the total number of apple trees in the United States and produce about 24 percent of the apples. From 1910 to 1930 the number of trees decreased about 60 percent and production decreased 42 percent. A large part of the decrease in tree numbers came in the first half of the period, 1910-30, and many of the orchards now remaining are well supplied with young trees, many of which were planted during the last 15 years. According to census figures nearly one third of the trees in these States had not reached bearing age in 1930 and according to a tree survey made in 1928 about 40 percent of the trees in commercial orchards of the region were under 9 years of age.

Many of the tree removals in the Central States between 1910 and 1930 were of odd and unpopular varieties. The more recent plantings have been of the more popular varieties such as the Delicious, Winesap, Jonathan, Stayman, Winesap, and Yellow Transparent. It is believed that the newer orchards of the region are more favorably located than were many of the early plantings, and that in the long run the past rate of tree mortality may be reduced. The removal of old trees continues in the region. Recent plantings have been light, and on the whole, there is no evidence at this time of material contraction or expansion of commercial orchards.

## EASTERN STATES

In the Eastern States, which include the New England, the Middle Atlantic, and the South Atlantic States, the number of apple trees declined about 24 percent from 1910 to 1930, and those of bearing age decreased about 17 percent. Much of this decrease occurred in farm orchards and in poorly located commercial orchards. At the same time, production fell off about 17 percent. In 1930, these Eastern States had about 44 percent of all apple trees in the United States and produced about 42 percent of all the apples. The tree survey of 1928 showed that approximately 64 percent of the apple trees in commercial orchards in the Eastern States were under 19 years of age, and the census figures of 1930 indicated that 20 percent were yet to come into bearing. Shortly after the World War, there was considerable planting of some of the more popular varieties. In the region as a whole recent plantings have been light and removals have continued at a normal rate, but there are indications that many of the orchards that have not been generally profitable are receiving less-than-average care. The nearness to large consuming centers of many apple districts of the Eastern States is an encouraging factor to eastern producers, especially under present economic conditions.

## PRODUCTION AND PRICES

On October 1, the Crop Reporting Board estimated the 1933 total apple crop of the United States at 147,447,000 bushels, which compares with 140,775,000 bushels produced in 1932, and 168,773,000 bushels, the average for the 5 years, 1926-30. In the western boxed-apple States the 1933 crop is forecast at 52,098,000 bushels, or about 1,600,000 bushels under that of 1932 and 6,000,000 bushels below the average for 1926-30. In the Central and Eastern States the production is forecast at 95,349,000 bushels, or about 8,300,000 bushels greater than that of 1932, but about 15,300,000 bushels less than the average for the 5 years, 1926-30.

The commercial crop in the Western States, at 37,698,000 bushels, is about 2,000,000 bushels under that of 1932, and in the Eastern States, at 45,015,000 bushels, it is about 1,155,000 bushels below the commercial production of 1932.

With these slightly smaller commercial supplies and somewhat improved demand conditions, apple prices this season to date have averaged higher than those for the corresponding period last year. On October 15, 1933, the United States farm price was reported at 70.3 cents per bushel compared with 57.2 cents a year ago, 58.9 cents 2 years ago and 69.2 cents, the October average price for 1910-14.

Market prices generally have been quoted slightly higher than at this time a year ago. All eastern varieties taken together averaged \$1.01 per bushel in October 1933 as against 94 cents last October. New York auction prices of western boxed Gravensteins averaged about 15 cents higher for the 1933 season than for the previous season. Western boxed Jonathan auction prices were



about 10 cents per box above those of October a year ago. Delicious and Rome Beauty auction prices were about 14 and 12 cents higher. In October 1933, western apples, in general, sold for \$1.69 per box at New York compared with \$1.55 in October 1932.

#### EXPORT MARKETS

The apple export outlook for the remainder of the 1933-34 season appears to be better than last season, because of the smaller supplies and the stronger demand conditions, both at home and abroad. The export situation has been strengthened materially by the improved foreign exchange position. But it does not appear that the volume of exports will be as large as in 1932-33 since the commercial crop is smaller and since France and the Netherlands have increased their import restrictions on American apples.

Exports of apples during 1932-33 season amounted to 13,800,000 bushels or about 16.1 percent of the total commercial crop. This was considerably below the average quantity shipped in the previous 5-year period, but the proportion of the commercial crop that was exported was about up to average. It can be seen, however, that with yearly exports ranging from 12 to 20 percent of the commercial crop, the export outlet is absolutely essential to the orderly marketing of the United States apple crop.

From a long-time point of view apple exporters in the United States may expect more competition from foreign supplies in the chief export markets. Canada, Italy, Australia, and New Zealand have been steadily increasing their apple exports during the last few seasons. These countries are definitely on an export basis and are giving more attention to improving the quality of their apples for export. Apples from the United States also have to meet competition from apple crops that are grown in practically all countries to which United States apples are exported. In most of these countries the governments are aiding growers to produce better fruit. In addition, there has been a tendency in foreign countries to restrict the importation of low-quality fruit. The passage of the Export Apple and Pear Act in 1933 should help materially to raise the quality of the apples exported from the United States.

#### PEACHES

The trend of peach production is downward in the South, in California, and in a few other important producing areas. In Colorado and Michigan the trend is upward, while in other important peach States not much change in average production is indicated. The number of trees in most States that produce fresh peaches for market does not seem excessive. In the South the number is much less than at any time in the last decade. There are enough trees in practically all areas, however, to produce large crops under favorable growing conditions. The acreage of clingstone varieties in California is still in excess of the needs of the canning industry under present demand conditions. For the country as a whole, low returns to growers in 1931 and 1932 caused serious neglect of many orchards, but higher returns in 1933 than in either of the 2 previous years may result in better care of orchards and some increase in tree plantings. Peach-tree planting has been at a low rate since 1930, and reports indicate that the quantity of nursery stock available for planting during the next year is somewhat limited.

Some adjustments are taking place in the industry. Marketing by motor-truck and at road stands and competition among commercial districts are causing shifts in production in some areas, and changes in varieties planted.

Exclusive of California, where most of the crop is used for canning and drying, peach prices to growers in the last 3 seasons have averaged about 37 percent less than in the preceding 3 seasons and about 48 percent less than in the period 1923-25. This compares with a drop of about 50 percent in the price of all groups of farm products for the last 3 years as compared with the previous 3, and about 53 percent compared with the period 1923-25.

#### PLANTINGS AND PRODUCTION

The South is the most important region in the production of fresh peaches for market. From 1930-33 the average production in seven Southern States (North Carolina, South Carolina, Georgia, Alabama, Tennessee, Arkansas, and Texas) amounted to about 44 percent of the total United States production

exclusive of California. Tree planting in the South, as a whole, has been very light since 1930. Low returns have discouraged many growers and made it impossible for them to buy sufficient fertilizer and spray material. Many orchards have suffered from neglect, and tree mortality has been high. However, better returns in 1933 than in the 2 previous years somewhat encouraged growers, and many orchards are being given better care. The trend in number of bearing trees in southern orchards is sharply downward.

Extremely heavy plantings, particularly in the period 1921 to 1924, resulted in very large southern peach crops in 1926, 1928, and 1931. Even with the demand conditions of 1926 and 1928 average prices to many growers were not considered profitable. The bearing acreage in the South is now considerably less than 5 years ago, and to maintain it some increase in planting would be necessary. This acreage, if well cared for, would produce large crops under favorable growing conditions but on the average would probably not produce more than the markets would readily absorb, particularly if there is an improvement in demand. But new plantings should be undertaken only after careful consideration of such factors as orchard site, varieties, competition, and financial resources to care for the orchard.

In Georgia, the leading southern peach State, production averaged 38 percent of the crop in 11 Southern States in the 4-year period ended in 1933. A survey in the fall of 1931 indicated that only 18 percent of the commercial trees in Georgia were less than 5 years old and that 33 percent were more than 9 years old. If plantings were at a uniform rate from year to year, it would probably be necessary to have from 30 to 35 percent of the trees under 5 years old at any time to prevent a decline in tree numbers. New plantings in Georgia have not been sufficient to replace trees going out of production. Many Georgia orchards have suffered from neglect, but it seems probable that the better commercial orchards in Georgia will receive more fertilizer and better care during the coming season than last season. In the decade ended in 1930 it was the general opinion that a season's shipments of at least 12,000 cars of Georgia peaches could be marketed without difficulty. It does not seem probable that the production for commercial shipment will average as high as 12,000 cars in the next few years.

In southern Georgia, comprising the district south of Macon, there probably has been little, if any, increase in tree population in the last 2 years, although most of the new plantings in Georgia have been in this district. A majority of trees set out have been of the Hiley variety. Fewer Early Rose than formerly have been planted in the southern district and relatively few Elberta trees.

In central Georgia there is evidence of a rapid decline in tree numbers. Many trees are 10 years or more of age. Large numbers of trees have been removed and others have been badly neglected in recent years. There is a tendency among the few growers in central Georgia who are planting trees to change from the Elberta to earlier-maturing varieties. A survey by the United States Peach Disease Laboratory, including 5,200,000 Georgia trees, a majority of which were in the central district, showed that about 12 percent were removed from 1932 to 1933 and that new plantings in the winter of 1932-33 were between 2 and 3 percent.

Reports indicate that in North Carolina new plantings are not fully replacing trees that are going out of production. In South Carolina new plantings are about sufficient to maintain the number of trees now in orchards. The Tennessee peach industry is distinctly on the decline. It is estimated that fully 45 percent of the trees in Tennessee have passed out of commercial production through lack of care in the last 2 or 3 years. In most other Southern States planting has been light and many orchards have suffered from lack of care.

In the region comprising Virginia, West Virginia, Pennsylvania, Maryland, Delaware, and New Jersey, plantings in recent years have been largely replacements of trees that have died. In general, the morale of growers has improved in 1933 and orchards are receiving fairly good care. Twenty-eight percent of the trees in these States were not of bearing age in 1930 and the number of trees had decreased 11 percent from 1925 to 1930. For this region as a whole, the average production has not changed greatly in the last decade.

The production trend has been slightly downward in New York State in the last 10 years. Tree numbers decreased 25 percent from 1925 to 1930. In the latter year, however, 32 percent were not of bearing age. Growers who had crops in 1933 received fairly good prices and orchards are mostly in good condition except for some damage from leaf curl in western New York.



In the North Central States, relatively few trees have been planted in recent years and for the region as a whole, no great change in average production is indicated. Orchards generally are receiving fairly good care. In 1930 about one third of the trees were under bearing age and there was only a slight decline in tree numbers from 1925 to 1930. In Michigan the potential production in 1934 is estimated to be about 15 percent greater than in 1929. In Illinois, during the last few years, new plantings have hardly been sufficient to replace trees going out of production, but growers are encouraged with 1933 returns and orchards are being well cared for.

The increasing production trend in Colorado is expected to continue although the 1933 crop was considerably smaller than the crops of the 2 preceding years. The number of trees in Colorado almost doubled from 1925 to 1930 and 42 percent had not reached bearing age in 1930. Good prices in 1933 encouraged growers and most orchards are in good condition although some have suffered from neglect during the last few years. In Utah, plantings in the last few years preceding 1933 are estimated to have been more than enough for replacement requirements. The freeze in the winter of 1932-33 killed about 10 percent of the bearing trees and weakened others, but the orchards generally are well cared for.

Very few peach trees have been planted in the three Northwestern States (Washington, Oregon, and Idaho) since 1930. In 1930 approximately one third of the trees in these States were not of bearing age. A slightly decreasing trend in tree numbers seems probable. Except for some damage from freezing, principally in Washington, orchards are in fair to good condition.

The trend in California peach production is downward. Low prices of clingstone peaches which are largely used for canning resulted in a practical cessation of planting and the removal of a large number of trees in recent years. The production of clingstone varieties is still excessive for the needs of the canning industry under present demand conditions. Under the provisions of the agricultural adjustment agreement, in 1933, the clingstone crop was not all harvested, but much higher prices than in 1932 were received by growers. The clingstone crop was estimated at 356,000 tons, of which only the no. 1's, amounting to 277,000 tons, were purchased from the growers. The purchases included about 38,000 tons which were not harvested.

## CHERRIES

Production of cherries in the 12 more important commercial States (New York, Pennsylvania, Ohio, Michigan, Wisconsin, Montana, Idaho, Colorado, Utah, Washington, Oregon, and California) in 1933 was 110,998 tons, which was about 13 percent less than the large crop of 1932, almost the same as the production in 1931, but nearly 22 percent larger than the average crop for the period 1926-30. No separation of sweet and sour cherries is regularly made in the estimates of production, but the bulk of the production east of the Rocky Mountains is of sour cherries. On this basis it is estimated that for the last 3 years sour cherries averaged about 55 percent and sweets 45 percent of the total production.

The total number of trees in the 12 States increased about 16 percent from 1920 to 1930. In 1920 about 22 percent of the total trees in orchards were not of bearing age and in 1930 nearly 37 percent. Since 1930 practically all of the nonbearing trees have reached the age of bearing. Allowing for natural mortality and some loss from injury during the winter 1932-33, it is estimated that there are around 7,800,000 trees of bearing age now in orchards which would be nearly 32 percent more than in 1930. Plantings during recent years have declined; however, with the large proportion of young trees that constitute the present bearing acreage, the production trend can be expected to continue upward for at least another 2 or 3 years.

## SOUR CHERRIES

No separation of sweet and sour varieties is made in the census enumeration of trees nor in the estimates of production but surveys show that the majority of the cherry trees in the States east of the Rocky Mountains are of sour varieties. About 95 percent of the trees in Michigan and fully 87 percent in New York are of sour varieties. The majority of the trees in Wisconsin, Pennsylvania, Ohio, Montana, and Colorado are of sour varieties.

In these seven States present tree numbers are sufficient to maintain an upward trend in production for at least another 5 years, provided there is no unusual abandonment or exceptional loss due to winter-kill or like causes.

Production of sour cherries is now so large that in years of average or better-than-average conditions production exceeds the quantity that can be marketed profitably.

In 1930 there were about 6,034,000 cherry trees in those seven States, 36 percent of which were not of bearing age, and 64 percent were bearing. In Colorado, in 1933, there was some loss of trees through winter injury, and tree numbers in that State are probably on the decline. Neglect of trees during the last 2 years in Wisconsin has probably resulted in sufficient injury to check the advancing potential production somewhat despite the probable increase in acreage due to new trees coming into bearing. On the other hand, Michigan, now the largest cherry-producing State in the country, had about 1,910,000 trees in commercial orchards on January 1, 1931; of these about 54 percent were nonbearing, 21 percent were between 7 and 11 years of age, 13 percent between 12 and 18 years old, 9 percent between 19 and 25, and 3 percent 26 years and over. Plantings since 1930 have been negligible. Considering the proportion of young trees in orchards and the high ratio of nonbearing to total trees, the trend of producing capacity of trees should continue upward until 1935. The greater portion of the cherry orchards in New York are relatively young and mostly well cared for.

From a marketing standpoint, the sour-cherry industry has a brighter outlook at present than it had a year ago. Following a relatively light pack in 1932, stocks of both canned and cold-pack cherries were about cleaned up during last year. Many growers in Michigan sold their crops to canners at prices contingent upon the price of canned goods. With the stock situation cleared, the situation for the current year looks much more favorable than it has for several years, in spite of the fact the 1933 pack is reported to be large.

#### SWEET CHERRIES

In the States producing the bulk of the sweet cherries the long-time production outlook is much the same as indicated for sour cherries. In 1930, California, Oregon, Washington, Utah, and Idaho had about 3,268,000 cherry trees, which represented an increase of about 56 percent over the number in 1920. Only about 62 percent of the trees in orchards in these five States in 1930 were then of bearing age, compared with 75 percent of the 2,156,000 trees reported in the census of 1920. Plantings since 1930 have been light in the Western States, but there is some indication that plantings of sweet cherries are being made in some Eastern States within trucking distance of large cities and in localities where retail sales can be made through roadside stands. With about 38 percent of the trees in orchards in 1930 not of bearing age, and with but little abandonment or unusual loss from weather and diseases, the trend of production may be expected to continue upward during the next 10 years.

The pack of sweet cherries in the three Pacific Coast States in 1932 of about 482,000 cases of equivalent  $2\frac{1}{2}$  cans was about 22 percent larger than the 394,000 cases packed in 1931, but about 43 percent less than the pack of 1929.

The pack of sweet cherries for the 1933 season amounted to about 917,000 cases or was about 90 percent larger than the pack of 1932.

#### PEARS

Pear production in the United States has followed a pronounced upward trend for the last 30 years, and there are now sufficient trees in bearing to maintain this increasing production for another 10 years. Production is so large that frequently more pears are produced than can be sold at prices affording a reasonable return to growers. During the last 3 years of low prices, growers in many sections have become discouraged but neglect of orchards has apparently not yet been serious enough to lead to abandonment.

The number of bearing pear trees in the United States declined from about 17,700,000 in 1900 to a low point—14,651,000 in 1920—then turned sharply upward to 16,041,000 in 1930. The 20 years of decline from 1900 to 1920 was marked by the abandonment of the small-farm orchard and by expansion in the more favorably located commercial sections. This shift in the areas of production was largely regional. In the Eastern States as a whole, tree numbers declined from the beginning of the century to the present time, while in the



Pacific Coast States new plantings made shortly after 1900 began to show in an upward trend in bearing trees between 1910 and 1920. The sharp increase in bearing trees between 1920 and 1930 is due almost entirely to the expansion in Washington, Oregon, and California. In 1910 only about 16 percent of the pear trees in the United States were located in these three States, while by 1930 these States contained over half. Since 1930, new planting as a whole has lessened; some new planting is continuing in a few areas, such as the Hood River Valley in Oregon.

No statistics are available as to the average age of pear trees now in orchards, but with such a large proportion of the present bearing acreage located in the three Pacific Coast States, where the major part of the development has occurred within the last 15 years, it would seem that the trees are relatively young. In the East the orchards are probably older, but the shift that has taken place to considerable extent in the last 20 years would indicate that the present orchards, though having reached full production, are in better locations where a relatively high average production per tree could be maintained.

Pear prices this season have recovered somewhat in both domestic and export markets from the extreme lows recorded last season. The marketing agreements that went into effect in 1933 have lifted prices for fresh winter pears. Thus far during the 1933-34 season prices have averaged somewhat higher than those that prevailed during last season.

Of the 22,500,000 bushels of pears harvested on an average in the 5-year period 1927-31, about 17,800,000 bushels were used as fresh fruit, 3,800,000 bushels were canned, and 900,000 bushels were dried. The canned fruit packed during this period averaged about 3,800,000 cases (24 no. 2½ cans) and the dried output 4,400 short tons. The output of both canned and dried pears has increased during the last decade.

Although most of the fresh pears are consumed in the United States, exports amounted to 7.6 percent of the crop, and have greater significance when it is considered that most of the exports consist of small pears which, for the most part, would otherwise find no market. Exports of canned pears account for 32 percent and dried pears 70 percent of the production of these products. Taken collectively, the quantity of pears exported in one form or another amounts to about 15.6 percent of the total pear crop.

## GRAPES

The market outlook for grapes during the remainder of the 1933 season and for the next few years is much improved over that of the immediate past. Owing to the prospects of the repeal of the eighteenth amendment, it seems likely that the demand for grapes will be increased in the next few years. But there is already in the country as a whole ample acreage of wine grapes to take care of this increased demand, and it is not probable that plantings will be necessary, except for replacements, for several years to come.

In general, grapes are used in the United States for three purposes. In the order of their importance, they are grapes used for fresh table use, grapes used for the production of raisins, and grapes used for the production of wines. During the last decade the volume of grapes marketed fresh had necessarily increased considerably but the decline in purchasing power during the depression brought about a decrease in demand and drastic declines in prices. With the repeal of the eighteenth amendment in prospect, it is probable that a considerable portion of grapes heretofore marketed as fresh grapes will be diverted to the manufacture of wine.

Prior to the enactment of the eighteenth amendment, 1915-19, consumption of wines in the United States averaged about 46,000,000 gallons per year, or somewhat lower than during the pre-war years, 1910-14, when it averaged about 57,000,000 gallons. Imports from foreign countries made up from 5,000,000 to 7,000,000 gallons of these quantities. On a per capita basis consumption has never exceeded 0.67 gallon during the last 30 years and in normal times averaged about 0.6 gallon. During the period 1910-14 production of all grapes in California averaged 897,000 tons while during the recent 5 years it averaged 1,924,000 tons. Production of all grapes in the remainder of the country, however, increased about 25 percent from 1910 to 1930.

The raisin situation from a supply standpoint appears to be much more favorable than it was in 1932. The total supply of raisins available for marketing in the 1933-34 crop year is about 13 percent less than that of the previous year.

The United States has exported around 65,000 tons annually during the last few years and, with foreign production of raisins and currants no larger than in 1932, it is probable that exports of the present year will at least equal those of recent years. Although the carry-over of the raisins for the 1932 crop was unusually large, that from the present crop, assuming domestic consumption no larger than in the last year, is expected to be small. Therefore, prices to raisin growers for the 1933 crop to date have averaged considerably higher than those for the 1932 crop.

For the country as a whole the production of grapes increased steadily during the decade ended in 1928 but has since declined slightly. The 1933 crop is expected to total 1,724,000 tons, which compares with 2,204,000 tons produced in 1932 and 2,447,000 tons, the 1926-30 average. California is expected to produce 1,484,000 tons in 1933, of which 367,000 tons are classed as wine varieties, 860,000 tons as raisin grapes, and 257,000 tons as table grapes.

In general, the demand for grapes has declined sharply since 1927, although there has been some slackening in consumption for at least 10 years. In 1932 growers received only \$13.24 per ton compared with \$23 per ton in 1931. Owing to a decreased supply and much improved demand conditions, the prospects are favorable for substantially increased returns for the 1933 crops.

#### ACREAGE

The number of grapevines of all ages and varieties in the United States decreased about 8 percent during the 10-year period 1910-20 but increased 45 percent from 1920 to 1930. The Bureau of the Census reported that there were 366,844,000 vines of all ages in the country as a whole in 1930, of which number 342,191,000 were of bearing age and about 24,653,000 were nonbearing. Since 1930 there has been considerable neglect and some abandonment of vineyards, especially in California, and there have been practically no new plantings, so the number of vines now in vineyards has undoubtedly declined slightly.

In California, where approximately 70 percent of the grape acreage is located, the number of bearing grapevines increased steadily during the two decades ended in 1928. Since 1928 there has been a steady decline and in 1933 the bearing acreage was about 18 percent below the 1928 peak. From 1919 to 1928 the bearing acreage of all varieties in California almost doubled, rising from 322,000 to 628,000 acres, but has since declined to 517,000 acres in 1933. Since 1927 the nonbearing acreage of all varieties has dropped off sharply, from 40,700 acres to only 1,900 acres in 1933.

The California bearing acreage of wine grapes increased steadily from 97,000 acres in 1919 to 194,000 acres in 1928 but declined to 185,000 acres in 1932. It increased slightly in 1933 to 188,000 acres. Since 1927 the nonbearing acreage of wine-grape varieties has declined steadily from 33,900 acres to only 600 acres.

The California bearing acreage of raisin grapes increased from 170,000 acres in 1919 to 352,000 acres in 1926 but has since declined to 234,000 acres in 1933. Very few raisin grapes have been planted in California during the last few years. In 1927 only 2,000 acres were of nonbearing age and by 1933 it had decreased to only 200 acres.

In 1919 the bearing acreage of table grapes in California totaled 55,000 acres. It increased to 144,000 acres in 1926, but since has declined steadily to 94,000 acres in 1933. The nonbearing acreage of table-grape varieties declined from 4,800 acres in 1927 to only 1,100 acres in 1933.

In the remainder of the United States the total number of grape vines increased 39 percent from 1920 to 1930, when it was probably at a record peak of 109,000,000 vines. Of this total, about 100,000,000 were of bearing age and 9,000,000 were nonbearing. Owing to the low prices received for all varieties of grapes during the last few years and in view of the downward trend of acreage in California, it is likely that there has been some decrease in vineyards in these States since 1930.

#### STRAWBERRIES

Preliminary estimates indicate that the total 1934 commercial strawberry acreage for picking will be about 204,560 acres, or 2 percent above the large acreage of 1933 and about equal to the record acreage of 1928. Acreages for harvest will be increased over those of 1933 in all marketing groups of States,



except in the early marketing group, where a reduction of about 6 percent is expected. Of the acreage expected to be available for picking in 1934, it is estimated that about 54 percent will be new beds picked for the first time, 33 percent will be second-year beds, and the remaining 13 percent will be chiefly third-year beds. The average condition of all beds about October 1 was reported to be 74 percent of normal condition for that date. The relative condition of first-year, second-year, and older beds was reported at 80, 69, and 59 percent, respectively. Similar data for other years are not available.

For the country as a whole, commercial strawberry production in 1932 was the largest in several years. With production high, with the quality of southern berries generally poor, and with the buying power of consumers low, average prices for the 1932 crop were much lower than for any of the previous 15 years, and 44 percent below the average price for the 5-year period, 1927-31. Notwithstanding the relatively low prices of 1932, the strawberry acreage for picking in 1933 was increased about 4 percent above the 1932 acreage. With the relatively large acreage of 1933, and with yields only slightly below average, total production was above average and prices to growers were the lowest on record, and 12 percent below the unusually low price of 1932. Even so, plantings were again increased, bringing the acreage for picking in 1934 very close to the 204,650 acres harvested during the record season of 1928. Based on average yield per acre of the last five seasons, 1929-33, the indicated acreage for harvest in 1934 would produce a crop almost as large as the very large crops of 1928 and 1932.

In the early shipping States (Florida, Louisiana, Alabama, Mississippi, and Texas) preliminary estimates indicate 44,110 acres for picking in 1934. This is about 2,600 acres below the peak acreage of 1933, but it is the third largest acreage thus far reported. The condition of the first-year beds, which will comprise about 93 percent of the 1934 acreage, was reported to be 83 percent of normal on October 1. The condition of second-year and older beds (confined to Alabama and Mississippi) was given as 77 and 75 percent, respectively. In these early States, expansion was especially marked from 1919 to 1929, when acreage increased from 7,900 acres to 41,600 acres. Since 1929, the acreage has varied from a low of 40,500 in 1931 to a peak of 46,760 acres in 1933. Slight acreage increases in 1934 as compared with 1933 are indicated in Louisiana and Texas, but these are more than offset by decreases in Alabama, Florida, and Mississippi. Florida with 10,000 acres indicated for 1934, and Louisiana with 26,500 acres, together contribute about 83 percent of the 1934 acreage for the early States.

Strawberry prices to growers in the early States in 1933 were the lowest on record, and about 18 percent below the very low prices of 1932. Prices in 1933 were only about 50 percent of the 1927-31 average. Low prices and low yields per acre in 1933 resulted in a gross return for the total crop that was 13 percent less than the low return of 1932, and about 59 percent less than the relatively favorable return of 1931.

In the second-early States (Arkansas, Georgia, North Carolina, South Carolina, Tennessee, and Virginia) the 1934 acreage for picking is expected to be about 3 percent larger than in 1933, chiefly because of increased plantings in Arkansas. The indicated 56,230 acres in these second-early States for picking in 1934 is the largest acreage reported since 1928 and is about 85 percent larger than the very low 1931 acreage. It has been exceeded only in 1924 and 1928. The first-year, second-year, and older beds, in order, are estimated to be 37, 42, and 21 percent of the 1934 acreage, and the reported October 1 condition, 79, 70, and 58 percent, indicating a condition for all beds of 70 percent.

The 1933 yield per acre was the lowest in more than a decade, with the exception of 1930, but with a relatively large acreage, production was substantially larger than for any of the three preceding years. Prices to growers in 1933 were about 20 percent less than the previous low prices of 1932 and were about 55 percent less than the 5-year average, 1927-31.

In the intermediate States (Missouri, Kansas, Illinois, Oklahoma, Kentucky, Delaware, Maryland, and New Jersey) acreage for picking in 1934 is expected to exceed the 1933 acreage by about 4 percent and the 5-year average acreage of 1928-32 by 11 percent. A total of 53,090 acres is indicated for picking in 1934 compared with 50,960 acres in 1933. Of the 1934 acreage it is estimated that 47 percent will be first-year beds, 43 percent second-year beds, and 10 percent older beds. The October condition of all beds was reported to be 70

percent of normal; first-year beds 74 percent, second-year beds 69 percent, and older beds 52 percent of normal. All States in this group show larger acreages for 1934, except Kentucky and Maryland. Production in 1933 was materially above the 5-year average, and the average price to growers was about 27 percent less than the previous low price of 1932.

In the eastern late States (Indiana, Iowa, Michigan, New York, Ohio, Pennsylvania, and Wisconsin) the estimated acreage for picking in 1934 is 29,400 acres. This is about 3 percent larger than the 1933 acreage and is the largest acreage reported during the last 15 years. Of the 1934 acreage it is estimated that 51 percent will be first-year beds, 39 percent second-year beds, and 10 percent older beds. The October condition of first-year beds was reported to be 76 percent of normal, of second-year beds 65 percent, of older beds 57 percent, and of all beds 70 percent of normal. Production in this group of States in 1933 was 11 percent below the 1932 production but was about 10 percent above the average production for the 5-year period preceding 1932. The average price paid to growers was approximately 7 percent below the low price of 1932.

In the Pacific Coast and Mountain States (California, Washington, Oregon, and Utah) 21,730 acres are indicated for picking in 1934. This is about 12 percent above the 1933 harvested acreage but is otherwise the smallest acreage reported since 1927. It is about 5,000 acres below the 1932 peak acreage. Relatively small acreages for picking in 1934 are indicated in Oregon and Washington where winter freezes in 1932-33 were especially severe; and because of the relatively poor condition of fields, yields in 1934 are expected to be below average. Of the 1934 acreage in the Pacific Coast and Mountain States it is estimated that 41 percent will be first-year beds, 34 percent second-year beds, and 25 percent older beds. The October condition of first-year beds was reported to be 91 percent, of second-year beds 70 percent, of older beds 66 percent, and of all beds 78 percent of normal.

Most of the production in the Western States is sold to local processing plants and for consumption as fresh fruit in western markets. The 1933 crop was appreciably reduced by winter freezes which destroyed about 15 percent of the Washington and about 45 percent of the Oregon acreage. Yields per acre in these Western States, as a whole, were low in 1933, and the production of about 40,000,000 quarts was the smallest reported since 1926. With the reduced crop, prices to growers improved moderately over the low 1932 prices, but were much lower than for any other recent year.

## DRY BEANS

The trade disappearance of dry beans during the 1932 crop-marketing season was about 300,000 bags less than the estimated 1933 crop and about 1,000,000 bags less than the average disappearance for the preceding 5 years. This is the second year of decrease from the maximum disappearance of over 13,000,000 bags in the 1930 and 1931 seasons. Any increase in acreage in 1934, with average yields, would result in an increased surplus and in lower prices unless consumption improves toward the level of the years 1927-31.

The indicated production of beans in 1933, based on crop conditions October 1, is 10,771,000 bags, which with the estimated carry-over in producing sections on September 1 of about 1,250,000 bags, gives a total of over 12,000,000 bags. This is about 300,000 bags more than the total supply in producing sections a year ago, when the estimated production was 10,164,000 bags and the carry-over about 1,562,000 bags; and is about 1,550,000 bags less than the average annual supply during the 5 years 1927-31. Apparently the disappearance of beans from producing sections during the 1932 crop-marketing season was about 10,475,000 bags compared with an average disappearance of 11,600,000 bags during the previous five seasons, including net imports.

The average farm price of beans in the United States followed the downward trend of agricultural commodities since September 15, 1930. At that time the average farm price was \$6.03 per 100 pounds, declining to \$2.58 per 100 pounds September 15, 1931, and \$2.04 per 100 pounds on September 15, 1932. The lowest price was reached February 15, 1933, when the average farm price for all beans was \$1.50 per 100 pounds. By August 15, 1933, prices had advanced to \$3.38 per 100 pounds, with a subsequent decline to \$2.64 per 100 pounds on October 15. These extreme low prices during the last 2 years were the lowest on record and from September 1931 to March 1933 the index of bean



prices was lower than the general index of farm prices. Burdensome carry-overs of some of the leading classes of beans have now been greatly reduced but with others the carry-over is still having a depressing effect on the price.

During the period September 1, 1931, to September 1, 1933, exports and re-exports of beans from the United States slightly exceeded imports. Prior to this time in most years imports exceeded exports by from about 400,000 bags to 1,100,000 bags. Shipments to noncontiguous United States territory, not included in these figures, increased steadily from 189,000 bags during the 1929 crop-marketing season to 407,000 bags in the 1932 season.

The production of beans by classes for the year 1933 will not be known accurately before final estimates are available in December. Indications on October 1 were that the production of pea beans this year will be about 3,250,000 bags compared with 4,632,000 bags in 1932 and 2,991,000 average for the preceding 5 years. The carry-over on September 1 of this year, however, was about 300,000 bags greater than a year ago. A large percentage of the pea-bean crop in the United States is canned as baked beans or pork and beans. The quantity of beans used by canners decreased markedly from 1929 to 1931, according to figures published by the Bureau of Foreign and Domestic Commerce.

The indicated production of Great Northern beans, which is second in importance in the white bean group to pea beans, is about 1,550,000 bags. This is about 500,000 bags more than was produced in 1932 but about 100,000 bags less than the average for the 5 years 1927-31. A carry-over of 350,000 bags brings the total supply to 1,900,000 bags compared with a total supply of 1,540,000 bags a year ago.

The heavy accumulated carry-over of Pinto beans resulting from the unusually large crops of 1929 and 1930 has practically disappeared, as a result of the unusually low production of 844,000 bags in 1932. The indicated production this year is more nearly in line with the average annual disappearance, namely, 1,600,000 bags. The price of Pinto beans during the 1932-33 marketing season ranged somewhat higher than that for leading classes of white beans. Prices for this class are still somewhat higher than those prevailing for Pea beans.

The indicated production of 850,000 bags of Lima beans plus the small carry-over on September 1 of this year of 47,000 bags results in a total supply of this class much smaller than last year or the average of the preceding 5 years. Baby Lima production was increased from 322,000 bags in 1932 to an indicated production of 570,000 bags in 1933. A carry-over of 68,000 bags on September 1 brings the total supply of this class up to 638,000 bags. The record movement or disappearance of Baby Limas occurred during the 1932 crop-marketing season when 618,000 bags disappeared into trade channels. Indications are, therefore, that there is a surplus of Baby Limas which may result in lower prices for this class.

No official estimates are available for the other classes of beans produced largely in California. Trade estimates show a total supply of Blackeyes about 50,000 bags greater than that of a year ago. This supply does not appear burdensome but is sufficient for average requirements. The production of Pink beans is estimated to be somewhat larger than in 1932, but about equal to the average for the previous 5 years. The 1933 production plus the September 1 carry-over equals the record distribution in the 1929 crop-marketing season. The 1933 production of California Small Whites is estimated to be almost double that of the 1932 crop but about the same as that of 1931. The carry-over is not heavy and the total supply is estimated to be around 440,000 bags.

## PEANUTS

### PRICES

October prices to growers for peanuts harvested for nuts were about double the low average prices received for the 1932 crop and may, if maintained, tend to encourage excessive plantings, especially in the Southeast and Southwest. Prices in October were only about 65 percent of the 1926-30 average but production costs in 1933 were the lowest in many years. Even if Government contracts specifically require that acreage eliminated from cotton and other crops is not to be planted to crops to be marketed, there will be much land suitable for growing peanuts that will not be restricted by contracts. Very low prices were received for the large 1931 and 1932 crops. If production

is increased in 1934 over that of 1933 it would seem that lower relative prices than those existing in October 1933 will be obtained for the 1934 crop.

October prices for the 1933 crop would have been lower except for the activities of the Agricultural Adjustment Administration. Following the large 1931 and 1932 crops, consumption of peanuts and peanut products during the 1931-32 and 1932-33 seasons was the largest in years although takings by oil mills were relatively small and confined to the lowest grades. Carry-over of farmers' stock peanuts in producing regions into the 1933-34 season was small and materially reduced from the carry-over of a year earlier.

#### ACREAGE

The estimated 1,387,000 acres of peanuts to be harvested for nuts in 1933 is about 13 percent below the record acreage of 1932, but is about 11 percent above the average for the 5 years, 1927-31. The October estimated yield of about 640 pounds per acre slightly exceeds the low 1932 yield but is about 11 percent below the average for the previous 5 years. The preliminary estimated production of about 890,000,000 pounds is 12,000,000 pounds under the 1932 crop, and is 11,000,000 pounds below the average for the preceding 5 years. The 1933 acreage was decreased from the 1932 figure in both the Virginia-North Carolina and the southeastern sections, but was practically the same as the 1932 acreage in the southwestern States.

Virginia, North Carolina, and Tennessee, which produce principally large-podded or Virginia-type nuts, according to preliminary estimates have an acreage nearly 23 percent below that of 1932, and the indicated 1933 production is about 24 percent or 96,000,000 pounds smaller than the 1932 crop. The carry-over of farmers' stock peanuts in all hands into the 1933-34 season was only about 50 percent of the large carry-over of a year earlier and with the reduced 1933 crop of 309,000,000 pounds, supplies of peanuts for the 1933-34 season will be about 30 percent less than were the supplies for the previous season. New-crop peanuts will average smaller in size than those produced in 1932. Because of low prices, consumption of Virginia-type peanuts during the 1932-33 season was the heaviest on record. The trend in Virginia-type peanuts is sharply toward shelled goods, peanuts in the shell now representing only about 15 percent of the total movement from this area. The present acreage is 18 percent below the average of the last 5 years, and if kept near this figure should assist in maintaining prices for large-podded varieties. Growers of Virginia-type peanuts, however, face keener competition than formerly from Spanish and southeastern runner peanuts.

In the Southeastern States of Georgia, Alabama, Florida, South Carolina, and Mississippi, where both Spanish and runner types are grown, the acreage in 1933 was reduced 13 percent from the 1932 acreage. With an estimated yield per acre slightly higher than the low 1932 yield, the October estimate is for a crop about 20,000,000 pounds smaller than that of 1932. Although the movement of shelled goods from this area during the 1932-33 season was less than for the preceding season, it was sufficient to dispose of the crop, and the carry-over into the 1933-34 season was negligible. Because of favorable weather while the peanuts were being dug and cured, the quality of the 1933 crop is superior to that of the 1932 crop. More farmers than usual placed their peanuts in storage, in the expectation of receiving higher prices. The indicated 1933 acreage of about 802,000 acres harvested for nuts in the Southeast is about 13 percent less than the record 1932 acreage, but about 11 percent above the average acreage for the 5-year period 1928-32. The large peanut crops produced during the last two seasons were absorbed at prices that have been disastrous to growers. If peanut prices are to be materially improved it seems that an acreage equal to the average of the last 5 years would be adequate.

In the Southwestern States of Texas, Oklahoma, Arkansas, and Louisiana, where Spanish-type peanuts are grown, the 1933 acreage and production show very little change from those of 1932, according to early October estimates. The carry-over in this area was extremely small. The quality of this year's crop in the Southwest appears better than that of last year. The acreage planted for nuts in 1933 in the Southwest was 17 percent above that of the last 5 years. Although the Southwest has more favorable freight rates to markets in the Southwest, Central West, and Intermountain States, it is not believed that any material increase over the 1933 level of production is desirable.



In addition to peanuts harvested for nuts, about 730,000 acres of peanuts, mostly planted with corn, were grazed or hogged off in 1930 and 1931, and about 820,000 acres in 1932. Some decrease in such acreage probably occurred in 1933 but its extent has not been estimated. The spring pig crop of 1933 was 1 or 2 percent smaller than in 1932 in the peanut-producing States and the number of sows to farrow in those States in the fall of 1933 was reported in June at about 3 percent less than the number in 1932. The southern corn crop in 1933 is about 6 percent less than it was in 1932 and about equal to the average for the years 1927-31. The grain-sorghum crop of the Southwest is about equal to last year's and is much above the average size.

## TOBACCO

Supplies of practically all kinds of tobacco produced in the United States for 1933-34 are larger than they were a year earlier, indicating the need for limiting production in 1934. Whereas the small 1932 crop of 1,000,000,000 pounds was around 200,000,000 pounds below last year's consumption, the estimated 1933 crop of 1,400,000,000 pounds is about 200,000,000 pounds above consumption. Even with the increased domestic consumption indicated for recent months' supplies (production plus carry-over) of most types are still excessive. They are particularly burdensome for burley and the cigar types and are materially above normal for Maryland, fire-cured, and the dark air-cured types. The estimated 1933 crop of flue-cured is about 20 percent larger than probable consumption, but because of last year's reduction of domestic and foreign carry-over the total supply is only slightly above normal.

Tobacco consumption in the United States has increased during the last several months along with the increase of pay rolls. From May to September, 1933, the manufacture of tobacco products, as shows by reports of the Commissioner of Internal Revenue, increased over that of a year earlier for the first time in 2 years. In comparison with the corresponding period of 1932, cigarettes increased 16 percent; large cigars, 5 percent; manufactured tobacco, 4 percent; and snuff, 8 percent. However, it appears that a considerable part of this increased production has not been consumed but has gone to increase inventories.

Foreign consumption of United States types of tobacco apparently is continuing to decline, owing largely to trade restrictions and substitutions of foreign-grown tobacco. The decreased foreign carry-over of United States types and the more favorable rates of exchange for the importing countries are expected to result in some increase of exports during the current year over those of the last 2 years. But for flue-cured tobacco, at least, the higher prices now prevailing in the United States may tend to have an offsetting influence.

Before next planting time it is probable that action will be taken by the Agricultural Adjustment Administration to control the 1934 production of all United States types of tobacco. Processing taxes are now being collected on all kinds of domestic and imported tobacco, effective October 1, at rates varying from 1.7 cents to 4.2 cents per pound. It is anticipated that the bulk of the revenue from these taxes, probably around \$25,000,000, will be used for production control.

### FLUE-CURED, TYPES 11, 12, 13, AND 14

Agricultural Adjustment Administration activities already have influenced prices and prospective supplies of flue-cured tobacco. Ninety-five percent of the growers have signed contracts agreeing to reduce their production in 1934 and 1935 by an amount requested by the Secretary of Agriculture not to exceed 30 percent of the average 1931-33 production. The large domestic manufacturers have entered into a marketing agreement to establish an average minimum price for an agreed minimum quantity to be purchased from the 1933 crop.

Production of United States flue-cured tobacco in 1934 must be reduced below that of 1933 if a normal balance between supply and consumption is to be restored and maintained. This conclusion is based upon the following facts: (1) Production in 1933, according to the October 1 estimate, was almost twice as large as in 1932 (705,000,000 pounds, compared with 374,000,000 pounds); (2) total world supply of these types for 1933-34 is about 4 percent larger than total supply last year, and although it is smaller than the supply for other recent years, consumption is also smaller; (3) world consumption in 1933-34 probably will be no larger than in 1932-33, as foreign displacements are expected to continue, although United States exports for 1933-34 are likely to

be above those for either of the last 2 years, when they were below foreign consumption; (4) United States and foreign carry-over of these types is smaller than a year ago by about 18 percent, but, inasmuch as the estimated 1933 production was about 100,000,000 pounds larger than estimated world consumption, carry-over next July will be increased correspondingly; (5) if production in 1934 is limited to 500,000,000 pounds, as proposed by the Agricultural Adjustment Administration, world supply of the United States types for 1934-35 (production plus world carry-over) will be about 4 percent smaller than that of the present year. A crop as large as the one in 1933 would increase supply next year and bring it further out of line with consumption.

Opening prices for the 1933 crop averaged higher than those for 1932, but the increase in price was not in proportion to the increase in the quality of tobacco. Growers expressed much dissatisfaction, and on September 1 a market holiday was declared by the Governors of North Carolina and South Carolina. Following the production adjustment campaign of the Agricultural Adjustment Administration and the negotiations with buyers upon a marketing agreement, the markets reopened September 25 with prices at higher levels. If the prices now prevailing (Nov. 3) continue throughout the remainder of the season the farmers' income from the 1933 flue-cured crop will be about two and one half times the income from the small 1932 crop, and the purchasing power of the crop in terms of the commodities farmers buy will be greater than that of any of the last 4 years and above the average for the 10-year period 1919-28.

The 1933-34 world supply of United States flue-cured tobacco, which is estimated at 1,950,000,000 pounds (green weight), is about 4 percent larger than the world supply of last year and slightly above normal, as it is a little more than three times the estimated 1933-34 domestic and foreign consumption of these types of about 600,000,000 pounds (green weight). World carry-over next July is expected to be around 100,000,000 pounds larger than that of July 1933.

The domestic consumption of flue-cured tobacco, about two thirds of which is in cigarettes and one third in manufactured tobacco, was about the same in 1932-33 as a year earlier. For the year ended June 30, 1933, cigarette manufacture was about 3 percent larger than for 1931-32, with most of the increase in May and June. Manufactured tobacco showed a 4 percent decrease. (It will be recalled that the wholesale price of the so-called "standard" brands of cigarettes was reduced last spring from \$6.85 to \$5.50 per thousand.) A part of the increased cigarette output apparently did not move into consumption but went to increase inventories. With a costinued increase of consumer buying-power, domestic consumption of flue-cured products in 1933-34 may be expected to show some increase over 1932-33.

Foreign consumption of United States flue-cured tobacco, which recently has been equal to about 60 percent of the total consumption, apparently continues to decline. Production of flue-cured tobacco in foreign countries in 1933 was the largest of record (probably as much as 200,000,000 pounds), with China and Japan each reporting record acreages of the flue-cured types. Imports of flue-cured tobacco from Empire countries into the United Kingdom again were increased in 1933, and although the British consumption of tobacco products has shown some increase in 1933 over 1932, the increase has practically all been in Empire tobacco. The consumption of United States types was practically unchanged. Flue-cured exports from the United States in 1932-33 of 270,000,000 pounds were below the small exports of 1931-32 and the smallest since 1924-25. The decreased foreign carry-over of these types, together with the more favorable exchange rates for importing countries, are expected to result in some increase of exports during the current year. However, the higher flue-cured prices now prevailing in the United States may have an offsetting influence.

#### BURLEY, TYPE 31

The total supply of Burley tobacco for 1933-34 is estimated to be 1,150,000,000 pounds (green weight). This is about 15 percent above the record supply of last year and more than 50 percent above the 1926-30 5-year average. The 1933-34 supply is equivalent to about 4 years' consumption at present rates, whereas the usual supply is equivalent to about 2½ years of consumption. Stocks on October 1, 1933, are estimated to be around 5 percent above the record stocks a year earlier and are themselves sufficient for about 2½ years of consumption requirements. With the estimated production for 1933 exceeding probable consumption by more than 100,000,000 pounds, it is expected that stocks



next October will be equivalent to about three times annual consumption, or considerably more than a normal supply. To this will be added whatever Burley is produced in 1934.

The 1933 crop of Burley, indicated October 1 at 424,000,000 pounds, is the second largest crop ever produced. It is more than 35 percent larger than the 1932 crop, which was considerably above consumption, and nearly 50 percent larger than the 5-year average production, 1926-30. This is the fourth consecutive year that production has exceeded consumption—which was between 280,000,000 pounds and 290,000,000 pounds each year.

With the present large supply of Burley tobacco it is evident that production must be considerably below consumption for 2 years, or more, if normal relationships between supply and consumption are to be restored.

#### MARYLAND, TYPE 32

The 1933 production of Maryland tobacco indicated on October 1 was 17,388,000 pounds, the smallest crop in many years. The reduction from 22,750,000 pounds produced in 1932 was mainly the result of crop damage, acreage having remained unchanged. Sales of the 1932 crop to October 1, 1933, averaged approximately 20 cents per pound, compared with an average of 18.5 cents for that part of the 1931 crop sold to the same date last year. Around three fourths of the 1932 crop was sold prior to October 1, but it is reported that a large part of the remainder consists of low grades.

Only about half the total production of Maryland tobacco is consumed in the United States, chiefly in the form of cigarettes, the remainder being exported. The trend of exports has been downward in recent years. The 1923-27 5-year average exports were 15,687,000 pounds, compared with an average of 9,993,000 pounds for 1928-32. The lowest annual total was 7,550,000 pounds in 1931. Exports to October 1 this year indicate that the total for 1933 may be little, if any, above that for 1931. Stocks of Maryland tobacco are the largest on record. Holdings of the grades known as "heavy crop" and "seconds" are extremely large.

Notwithstanding the high prices received for that portion of the 1932 crop sold to date, the present low rate of exports indicates that production in 1934 must be limited to not more than the quantity produced in 1933 if the continued accumulation of stocks is to be checked.

#### FIRE-CURED, TYPES 21, 22, 23, AND 24

Heavy world supplies, a further curtailment of world consumption, and a continued increase of competition from foreign tobacco are the outstanding features of the outlook for United States fire-cured tobacco. World supplies for 1933-34 are estimated to be about 500,000,000 pounds (green weight), 428,000,000 pounds of which are the Kentucky-Tennessee types and 72,000,000 pounds the Virginia type. This is approximately the same as the 1932-33 supply. But the estimated world consumption of 135,000,000 pounds is 10 percent below that of the previous year and 30 percent below world consumption of 4 years ago. Thus, the 1933-34 supply is relatively larger than that of 1932-33.

The October 1 forecast of the 1933 production of all fire-cured types was 134,000,000 pounds. This is 8,000,000 pounds larger than the 1932 crop and about the same as total world consumption estimated for the current year. The Kentucky-Tennessee types showed little change from 1932, but the production of Virginia fire cured increased about 8,000,000 pounds. Total world stocks of these types October 1, 1933, are estimated to be about 330,000,000 pounds (green weight). World stocks next October are expected to show little change from that figure.

In the United States fire-cured tobacco is consumed principally in the form of snuff. The consumption of snuff during the 10-year period, 1922-31, showed only minor fluctuations. During the crop year 1932-33 consumption of snuff was about 15 percent below the 10-year average. With the domestic consumption representing only 30 percent of the world consumption of these types it is evident that this decline has had only a small influence upon the present supply situation.

Nearly 90 percent of all United States fire-cured tobacco was consumed in foreign countries prior to 1923. Since that time foreign consumption has de-

clined about 50 percent. Exports have declined by more than 50 percent, since the reduction in foreign-stock requirements made it unnecessary to replace the total quantities withdrawn for consumption. Exports for the crop year ended September 30, 1933, were the lowest on record, being about 20 percent below the previous year. Exports of the Kentucky-Tennessee types have declined most. The consumption of competing foreign tobacco in Europe is estimated to have increased from 192,000,000 pounds to 297,000,000 pounds from 1924-32.

In view of the increasing substitution of foreign tobacco and the resulting low rate of fire-cured exports from the United States, it appears that production of these types will need to continue on a restricted basis.

#### DARK AIR-CURED, TYPES 35, 36, AND 37

The 1934 outlook for United States dark air-cured tobacco is characterized by large domestic stocks and continued reductions of world consumption. Total world supplies of these types for the crop year beginning October 1, 1933, are estimated at 125,000,000 pounds (green weight). This is slightly smaller than the 1932-33 supply, and about 20 percent below the 5-year average, 1926-30. However, the estimated 1932-33 world consumption of 42,000,000 pounds is more than 10 percent below the annual world consumption of 2 previous years, and about 30 percent below the 5-year average. Thus, in view of the reduced rate of consumption, present supplies are relatively larger than those for other recent years. The estimated 1933 production was approximately the same as the estimated consumption, so that stocks next October are expected to show little change from the large stocks of October 1933.

The October 1 forecast of the 1933 dark air-cured crop was 42,000,000 pounds. Of this amount 21,000,000 pounds was One Sucker, 19,000,000 pounds was Green River, and nearly 2,000,000 pounds was Virginia sun cured. This estimated production is slightly larger than the production of 1932, the reduction of 2,750,000 pounds in Green River being more than offset by increases in One Sucker and Virginia sun-cured. October 1 stocks of these types in the United States and foreign countries are estimated to be about 5 percent below the level of a year ago, owing to reductions in stocks of One Sucker and Virginia sun-cured. Except for 1932, however, the stocks at present are larger than for any year since 1928.

World consumption of United States dark air-cured tobacco has declined about 50 percent during the last decade. The rate of decline has been greater in foreign countries, but with about two thirds of this tobacco used domestically, the amount of the reduction has been greater for the United States. These types are used largely in the manufacture of chewing tobacco, and, to some extent, in smoking mixtures. They are exported as both rehandled and raw leaf tobacco. Exports of these types for the 1932-33 season were at record low levels.

World consumption of United States dark air-cured tobacco is expected to continue on a relatively low lever. Production of these types must be kept on a restricted basis if supplies are to be brought into line with consumption.

#### CIGAR-LEAF: FILLER, BINDER, AND WRAPPER TYPES

The indicated quantity of cigar-type tobacco harvested in 1933 is somewhat less than annual consumption at present rates. This is the first year since 1930 that the crop has been smaller than consumption. The production indicated on the intended 1933 acreage of cigar tobacco would have been equivalent to more than 1 year's consumption. But this was reduced materially below consumption as a result of the program of the Agricultural Adjustment Administration, and stocks at the end of 1933-34 (including old tobacco held on farms) are expected to be correspondingly smaller. On October 1, 1933, they were equivalent to about 5 years' consumption at present rates, which is more than twice the ratio between supply and consumption that prevailed before 1929.

The rate of decline in cigar consumption has been reduced in recent months. Production of cigars for the first 8 months of 1933 was only 5 percent below the same period in 1932 as compared with more than 20 percent below the first 8 months of 1931. In June, July, August, and September 1933, cigar production was larger than for the same months of 1932. This is the first time since September 1929 that cigar production for any month has been appreciably larger than for the same month of the previous year. Some of this increase went to



increase the inventories of dealers and retailers, but a considerable part of it is reported to have moved into consumption.

Use of domestic tobacco in cigar manufacture in the United States in the last 5 years has not declined as much as that from foreign countries, Puerto Rico, and the Philippines. This has been due in part to low prices prevailing for domestic cigar-leaf and to reductions in cigar prices which necessitated lower costs of manufacture. The decline in cigar consumption has been much greater for cigars that retail at more than 5 cents each than for those retailing at 5 cents or less, partly because of a mark-down in the price of cigars that formerly sold above 5 cents. The rate of decline in total cigar consumption has undoubtedly been lessened by such price reduction.

If a normal balance between supply and the present low rates of consumption is to be restored, production of cigar tobacco must continue below consumption until considerable quantities of the present large stocks have been utilized. This is particularly true for the filler and binder types.

### BROOMCORN

Prospective commercial requirements for broomcorn in 1934 appear to justify some increase in acreage over that harvested in 1933. The use of broomcorn is almost entirely limited to the making of brooms and since the requirements for domestic use and export have been satisfied in recent years at about 45,000 tons, a supply much greater or smaller than this results in a decided change in the price received. The 1933 short crop, the prospects for a small carry-over, if any, at the end of the 1933 season, and present high prices for broomcorn, may result in a greater expansion of broomcorn acreage in 1934 than is justified, especially in view of the interest being shown by growers in established districts, not now producing appreciable quantities.

The present outlook, based on the condition of the crop, is for a 1933 production of approximately 28,500 tons, which is about 23 percent below that of 1932. The acreage in 1933 was about 14 percent smaller than in 1932. Owing to an unfavorable growing season, the yield per acre was the lowest in more than a decade.

The indicated stocks of only 2,500 tons as of July 1, 1933, at country shipping points and on farms were the lowest in many years. This situation, together with the 1933 short crop, is likely to result in little, if any, carry-over into 1934. Should the prospects for depleted supplies at the end of the 1933-34 season, together with higher prices this year, encourage excessive broomcorn plantings in 1934 the price to growers for next year's crop is likely to be unfavorable, since broomcorn is particularly sensitive to an over or under supply.

A total of 300,000 acres of broomcorn in 1934 (which is 11 percent greater than the indicated acreage in 1933) with the 1928-32 average yield of 292 pounds per acre, would produce a crop of approximately 44,000 tons, which is slightly less than the average annual disappearance during the last 3 years. An acreage as high as 320,000, an increase of 20 percent, might produce an excessive supply for consumption, export, and carry-over.

The established broomcorn districts can produce an ample supply of broomcorn without appreciable decreases in the acreage of other crops. As buyers usually visit only established broomcorn districts, producers of broomcorn outside of established districts, unless they have a local market, are at a material disadvantage in marketing their crop. In addition, broomcorn production requires special equipment. Unless a grower has had experience in growing and handling the crop, he is likely to produce broomcorn brush of low quality which will not command a good price.

### RICE

United States supplies of rice for the 1933-34 season are about 10 percent under those of a year earlier, largely as a result of a reduction in acreage. Should domestic utilization and shipments to Puerto Rico and Hawaii be as large as last season the quantity available for export would be less than a third of the 1932-33 exports. Both domestic utilization and exports, however, may be materially affected by marketing agreements now in effect both in the Southern States and in California. Minimum prices 75 to 80 percent higher than prevailed October 1 last season have been established for rough rice in the southern area and for milled rice in California.

## SOUTHERN BELT

Supplies of southern rice for the 1933-34 season are nearly 15 percent below those of 1932-33 as a result of a materially reduced crop and a carry-over less than half as large as a year ago. The 1933 southern rice crop was estimated October 1 at 8,168,000 barrels (162 pounds). This is a reduction of 1,326,000 barrels from the 1932 outturn and of 2,114,000 barrels from the 1931 harvest. The smaller crop this season is largely the result of a reduction in acreage. The area harvested in the southern belt in 1933 was 661,000 acres as against 759,000 acres in 1932 and the 5-year average (1926-30) of 843,000 acres. The carry-over of rough rice from the 1932 crop totaled approximately 142,000 barrels or less than half of the large 1931 carry-over of 302,000 barrels. Adding crop and carry-over gives a total supply of rough rice in the Southern States for the 1933-34 season of 8,310,000 barrels compared with 9,636,000 barrels the previous year and 10,376,000 barrels 2 years ago. Allowing for average farm use for seed and feed (425,000 barrels) only about 7,485,000 barrels of rough rice are available in the Southern States for market during 1933-34 or for carry-over at the close of the season. This compares with about 9,200,000 barrels in 1932-33 and 9,482,000 in 1931-32.

In addition to the rough rice carried over August 1, 1933, milled-rice stocks at mills totaled 645,539 pockets (100 pounds each) or 352,213 pockets less than August 1, 1932. With the milled-rice stocks included, rice supplies for the 1933-34 season total the equivalent of 8,956,000 barrels compared with 10,634,000 barrels for the 1932-33 season. Although more rough rice moved to mills during August and September this year than last, less rice was milled and smaller quantities of milled rice were shipped into trade channels. Rough rice milled during the first 2 months of the season totaled 999,530 barrels compared with 1,093,468 last season. Production of milled rice during August and September 1933 totaled 1,017,611 pockets against 1,166,955 for the corresponding period last season. Shipments from mills totaled 1,663,170 pockets for the 2 months compared with 2,142,885 a year ago.

## CALIFORNIA

The 1933 rice crop in California promises to be about 3,005,100 bags of 100 pounds each compared with 3,168,000 bags last year and an average of 3,474,000 bags for the 5 years 1926-30. A considerable part of the California crop may be utilized in the domestic market if prices are not fixed much above present levels. If California prices are advanced by any considerable amount the spread between middle quality at Tokyo and No. 1 Brown at San Francisco may be sufficient to permit importation of Japanese rice in Hawaii and California. The spread between these grades on October 13 was about the same as the import duty on brown rice.

The 1933 Japanese rice production was 20,622,000,000 pounds compared with 18,972,000,000 pounds in 1932. A record carry-over from the 1932 crop is in prospect. Chosen has a production considerably larger than last year, but Taiwan's first crop is about 6 percent under the unusually large harvest of last season. Japanese officials are reported to be concerned over the large rice supply in Japan proper. Reports state that the Government has proposed the purchase of unhulled rice after November 1 and a rice-acreage reduction policy for 1934 for Japan proper and the colonies. Prospects are for a 1933 Chinese crop somewhat below last year's production. The Yangtze Valley area anticipates a harvest nearly as large as last year's large crop but the crop of the southern Chinese provinces and the Manchurian crop are expected to be smaller. Stocks of old rice in the Yangtze Valley are large and merchants are reported as having difficulty in competing with southern Asia rice in southern China.

The 1933 rice crops in the principal producing countries of Europe—Spain and Italy—are smaller than in 1932. The 1933 Spanish crop of 404,000,000 pounds compares with the outturn of 433,000,000 pounds in the previous season. This season's Italian crop of 818,000,000 pounds is 8.5 percent under the 894,000,000 pounds of 1932.

The southern and the California rice-marketing agreements have brought the marketing of rice in the United States under the provisions of the Agricultural Adjustment Act and therefore under the review and direction of the Secretary



of Agriculture and under the immediate direction of the two control committees. The essential features of these agreements follow:

- (1) The price of rice to producers is fixed by the Secretary of Agriculture. It may be changed at his direction.
- (2) All millers are obliged to conform to the fair-trading practices outlined in these agreements.
- (3) Surpluses are to be avoided, but should stocks inadvertently begin to accumulate, machinery is available for their prompt disposal. A fund is accumulated to pay the costs involved.
- (4) Rough rice is to be graded prior to sale in California, by an appraisal committee composed of representatives of both millers and producers. In the South, the grading of the farmer's rice by millers is subject to review by the Federal-State grading office in case of dispute.
- (5) The control of production is recognized as a prerequisite to the maintenance of prices. In California, producers have created an organization to keep production at approximately a 3,000,000-bag level. Participation in the plan is voluntary but the inducements offered to participate are thought to be sufficiently large to cause all growers to cooperate in the control program. A plan for crop control in the South is now being worked out.

### FARM FAMILY LIVING

In view of the favorable prospects for further advance in the level of farm prices, the income of farm families may be expected to increase during 1934, and there are reasons for anticipating that this increase will somewhat more than offset the probable advance in the level of prices of the commodities that farmers buy.

Even if there should be considerable improvement in farmers' purchasing power, the income of a large proportion of farm families will probably remain at too low a level to permit expenditures beyond the bare essentials of living. In many homes payments on debts, taxes, and other obligations will absorb a large share of the increase in income during the coming year. Where some cash surplus is available over the immediate requirements of everyday living, it will frequently be needed for replenishing severely depleted reserves of clothing, house furnishings, and other items, and for purchasing goods and services formerly considered essential but necessarily neglected during the last few years. In most sections of the country home-production programs of emergency proportions will still be required, as a means of reducing the demands upon the cash income.

### INCOME FROM FARM PRODUCTION

The downward trend of farm income that occurred from 1929 to 1932 has been checked during 1933 mainly because of the marked rise in the prices of farm products during the spring and early summer. During the 3 years following 1929, gross income from farm production declined to 43 percent of its former level. Since the farmer's costs of production fell much more slowly during this period, the balance of income left as a return for the operator's labor, capital, and management was even more sharply reduced. In 1929 this balance averaged about \$880 per farm; by the end of 1932 it had shrunk to less than one fourth of this sum. These figures, moreover, include the value of food and fuel supplied by the farm for family use, as well as the cash income from farm products sold. If this income "in kind", which has formed an increasingly important part of the farm family's income during the last few years, is deducted, the cash balance available for family maintenance shows a still more striking decline.

Corresponding figures for 1933 are not yet available, but present prospects are that gross income for the year, including rental and benefit payments made to farmers by the Agricultural Adjustment Administration, will show an increase of about 24 percent over 1932. A somewhat greater percentage gain may be expected in the balance of income available for family maintenance, since farm-production costs during 1933 have not increased as rapidly as has gross income. From March to October the average prices paid by farmers for commodities used in production advanced 12 percent. During this same period, however, average prices received by farmers for all farm products increased 40 percent over the abnormally low levels that existed last March.

Other costs of production, including wages, rent, interest, and taxes, have shown, on the average, little advance in 1933 over the preceding year.

Income estimates by States have not yet been made for 1933, but the changes in prices of various farm products and in volume of production indicate that some areas are benefiting much more than others. Probably the greatest improvement in income is occurring in the Southern States, where farmers are not only obtaining higher prices for cotton but also are receiving substantial payments for reducing the acreage of cotton this year. Income to farmers producing wheat, potatoes, tobacco, truck crops, and fruits will also be somewhat higher in 1933 than in 1932. On the other hand, incomes of those farmers who depend primarily upon receipts from livestock will probably not be greatly different in 1933 than in the preceding year, as prices of many kinds of livestock and livestock products so far during 1933 have averaged below the 1932 prices.

Income from farm production in 1934 will depend in large measure on the trend in the level of farm prices. This level will, in turn, be influenced by the stocks and production of agricultural products, by changes in consumer buying power, and by governmental action with regard to monetary and credit policies. On the whole, farm prices in 1934 are likely to average above those of 1933 and total farm income will probably also be somewhat higher.

#### INCOME FROM NONAGRICULTURAL SOURCES

Incomes received by farm families from sources other than agriculture will probably show a slight increase during the latter months of 1933. In a large proportion of farm homes in the more industrialized sections, especially in New England and in the Atlantic States, earnings from employment in nonagricultural industries will probably form an important part of the family income during 1934.

It is probable, however, that the number of persons desiring such employment will remain considerably in excess of the opportunities available during 1934. The blocking of the migration from farm to town of young people in search of jobs during the last 3 years and the shift of urban population back to farms has appreciably increased the number of adults in the farm population and enlarged the need for opportunities for gainful employment in nonagricultural lines.

The sale of household products through roadside stands and curb markets and through women's cooperative marketing associations will continue to form an important supplement to farm family incomes during 1934. As general recovery proceeds, some increase in the volume and value of such sales, as well as in income from the tourist trade, may be expected.

#### RETAIL PRICES OF COMMODITIES BOUGHT FOR FAMILY USE

The real income of farmers during 1934 will depend not only on the trend in cash income from farm production and other sources, but also on the movement of prices of commodities that farmers buy for family use. The level of retail prices for these commodities declined steadily from 1929 to March 1933, and in March were 99 percent of the 1910-14 average. But since that month the trend has been sharply upward, and by October the prices paid by farmers for commodities bought for family maintenance had returned to 119 percent of the pre-war average. Prices for all groups of commodities advanced, the most marked increases occurring in prices of food and clothing.

Several factors account for this unusual advance in the prices paid by farmers during the last 7 months. Sharp advances in the prices of many farm products since the early months of the year have been reflected in retail prices farmers must pay for food and clothing. Increases in wages in certain industries have increased prices of many consumption goods. The introduction of the processing taxes on wheat and cotton has also had some effect, although the amount of increase attributable to this cause is smaller than many consumers realize.

Although prices of farm products have shown some decline since about the middle of July, prices of commodities purchased by farmers for family use have continued to advance. Some further increase in these retail prices can probably be expected during the coming months.

This higher price level of commodities purchased for family living will offset to some extent the increase in farm incomes during 1933. The real income of farmers in this year will nevertheless be larger than in the preceding year, as



the prices paid for these commodities for 1933 as a whole will probably average only about 3 percent higher than for 1932. The amount of increase in real income in 1934 cannot be estimated at the present time, but there are reasons to believe that the trend will be upward.

#### ADJUSTMENTS IN FAMILY EXPENDITURES

Although most farm families will probably have more money at their disposal in 1934 than in 1933, a large proportion of them will be unable to purchase much beyond the bare essentials of living. Expenditures for food, clothing, fuel, and household supplies will continue to require about two thirds of the total cash outlay. This will be the case even in the face of greatly expanded live-at-home programs.

The kind and amount of other purchases will be affected of course by the economies of the last few years. Subnormal expenditures since 1930 have meant greatly depleted reserves of clothing and household furnishings in most farm homes, and many families have been obliged to postpone repairs to the house and to defer dental treatment and other preventive medical care. As money for family use increases, expenditures for these and other neglected items will undoubtedly be made. In many cases also, some of the additional funds will be spent for automobile operation, repair, and replacement. Probably the purchase of new household equipment and other durable consumption goods, and improvements and repairs on the house, will be among the last to receive attention. But where cash is available for repairs and improvements some farmers will doubtless buy lumber, paint, and other building materials as soon as possible, in order to anticipate a possible further rise in retail prices of these commodities.

For large numbers of families the payment of obligations to neighbors, and the payment of store bills, back taxes, interest, and other debts will have first claim on any increase in income. Demands of this nature may be of such magnitude as to allow no more free choice in expenditures in 1934 than in 1933.

#### ADJUSTMENTS IN BUYING

The effort of farm families to stretch the buying power of their dollars through cooperative purchasing will probably continue during 1934. Reports as of July 1, 1933, show 1,648 farmers' cooperative purchasing associations with a membership of 543,000. Although the dollar value of goods handled by these associations declined during 1933, the volume of trade was well maintained. Three fourths of these associations are reported as cooperative stores, and a large number sell home as well as farm supplies. Oil and gasoline are the principal items bought cooperatively for family use, but purchases of groceries, coal, clothing, and household textiles, through cooperative associations are increasing.

The use of barter as a means of obtaining needed goods and services without cash outlay may also be expected to continue during the coming year.

The low incomes that prevailed during last year and the rapid changes in retail prices have combined to emphasize the need for more adequate purchasing information for household buyers. The Consumers' Counsel of the Agricultural Adjustment Administration began in September to issue a biweekly Consumers' Guide to aid housewives and other consumers in understanding changes in prices of farm products and other commodities and in making wise, economical purchases. This service will be continued during the winter of 1933-34.

The interests of the consumer are also being guarded by the Consumers' Advisory Board of the National Recovery Administration. This board is advising on the codes submitted by the various industries in respect to provisions affecting price and quality of over-the-counter consumer goods; it also has committees at work on the determination of reasonable price increases, on consumer credit, and on the development, through Government aid, of improved standards for consumer goods.

Through the work of the various governmental and private agencies interested in consumer standards, some progress will undoubtedly be made during the coming year in the program for the grading and accurate labeling of foods and other commodities sold at retail.

## THE HOME PRODUCTION PROGRAM

During 1933 farm families continued their efforts to be as self-sufficient as possible with respect to food. The pressure of taxes, debts, and other demands on the small amounts of available cash made this an advisable, and in many cases a necessary, procedure. Many individual families enlarged and coordinated their live-at-home programs, building on the experience of preceding years and making use of the carefully planned yearly food budgets which are now available. A marked increase has been apparent during the summer and fall in the output of farm gardens and in the quantity of food preserved by canning, drying, and brining, and by storage in cellars and pits. The home slaughtering of meat animals has been increased. The home manufacture of many food products formerly purchased has also been prevalent. The home milling of flour and cereals is an outstanding example. Most farm families have been accustomed to producing from 40 to 60 percent of their food supply, and advancing this proportion to 75 or 90 percent, as has been done in many communities, represents an emergency measure.

In addition to live-at-home planning on individual farms, cooperative-garden and food-preservation programs have been developed with relief agencies in most States. One result has been the increase in small, supervised canning centers; in one State alone 175 such centers were in operation this fall. Milling of flour and cereals is an outstanding example. Most farm families especially on large plantations using Negro labor. In some cases these efforts were supplemented by large-scale plantation gardens and centralized production of milk and pork for tenants.

Next to food production, the activities of greatest importance in most live-at-home programs are the provision of fuel and the making, remodeling, and cleaning of clothing. More of this work was done in 1933 than in previous years. Of other home-produced commodities, the most important were cleaning supplies, especially laundry soap. Comforters and rugs, manufactured in some cases from home-produced cotton and wool, were made to a considerable extent for home use and in some localities were made for sale.

Most of the work of this character (except the provision of fuel) was done, as usual, chiefly by the farm women. Under continued necessity of keeping down cash expenditures in this way, the farm woman's load was probably greater during 1933 than in some years past, notwithstanding the assistance she received from the men and older boys and girls of the family.

A live-at-home program of emergency proportions will still be required during 1934. This program will be facilitated, however, by the unusually large proportion of adults now living on farms and by the labor released by acreage reduction of cash crops. Until incomes are greatly increased, a heavy volume of home production must be expected.